United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
United States Department
of the Interior, Bureau of
Land Management, and
Utah Agricultural
Experiment Station

Soil Survey of Millard County, Utah, Eastern Part

How To Use This Soil Survey

This survey includes general information about the survey area, a description of how the soils formed, descriptions of the detailed soil map units and soil series in the area, a description of the use and management of the soils and the major soil properties, and detailed soil maps.

A **State soil geographic data base** (STATSGO) is also available for this survey area. It replaces the general soil map and the general soil map unit descriptions published in the older soil surveys. This data base includes a soils map produced at a scale of 1 to 250,000 and interpretive tables for groups of associated soils. The data in STATSGO can be used for multicounty planning and can be tailored for specific needs. More information about STATSGO is available at the local office of the Natural Resources Conservation Service.

The **detailed soil maps** in this survey can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**, which precedes the soil maps. Note the number of the map sheet, and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for other sections of this publication that may address your specific needs.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1994. Soil names and descriptions were approved in 1995. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1995. This survey was made cooperatively by the Natural Resources Conservation Service, the Bureau of Land Management, and the Utah Agricultural Experiment Station. It is part of the technical assistance furnished to the Millard County Soil Conservation District.

Since the publication of this survey, more information on soil properties may have been collected, new interpretations developed, or existing interpretive criteria modified. The most current soil information and interpretations for this survey are in the Field Office Technical Guide (FOTG) at the local office of the Natural Resources Conservation Service. The soil maps in this publication have been digitized in accordance with the Soil Survey Geographic (SSURGO) data base standards. During the digitizing process, changes or corrections to the maps may have occurred.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover: View of Round Valley, looking west at the northern part of the Pavant Range, in Fishlake National Forest. Hiko Peak and Taylorsflat soils in foreground, Manassa and Mellor soils in center, and Probert soils at the base of the mountains.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service home page on the World Wide Web. The address is http://www.nrcs.usda.gov (click on "Technical Resources").

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Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations that affect various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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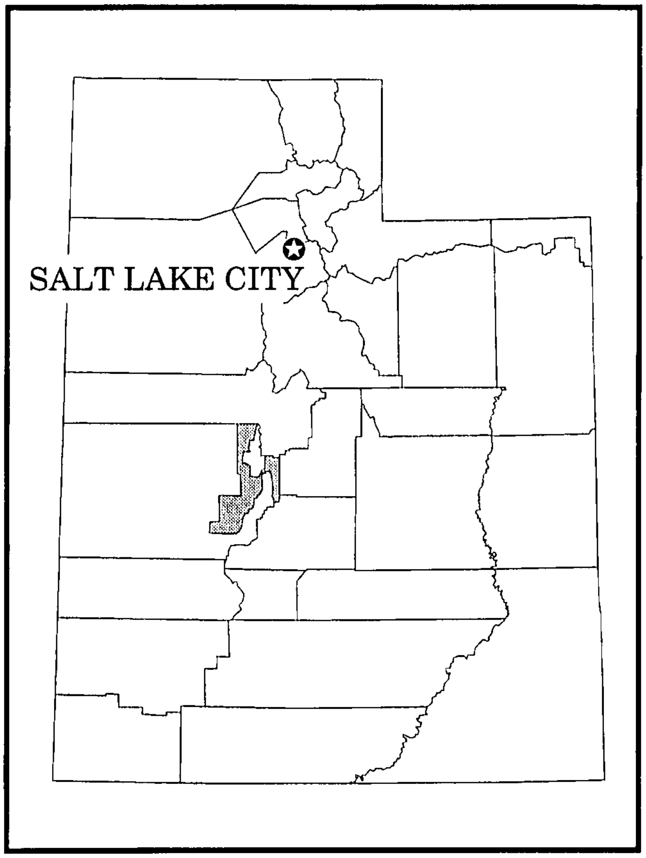
SALT LAKE CITY

Location of Millard County, Eastern Part, in Utah.

Soil Survey of
Millard County, Utah, Eastern Part

By Victor L. Parslow and Terry Dallin, Natural Resources Conservation Service

Fieldwork by Terry Dallin, Richard Jaros, Robert Fish, LuDean Campbell, and Victor Parslow, Natural Resources Conservation Service, and David Cremeens, Utah Department of Agriculture

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
United States Department of the Interior, Bureau of Land Management, and Utah Agricultural Experiment Station

MILLARD COUNTY, UTAH, EASTERN PART, is in the west-central part of Utah. It has a total area of 484,750 acres, or about 757 square miles. It is bounded on the north by Juab County, on the west by the western part of Millard County, on the south by Beaver County, and on the east by Fishlake National Forest and Sevier and Sanpete Counties. The Pahvant Mountains, which form the boundary between Millard and Sevier Counties, are the source of the water for most of the perennial streams in the survey area *(2)*.

Elevation ranges from 4,600 feet west of Flowell to 8,025 feet in the Valley Mountains, east of Scipio Valley. The population of the survey area in April 1991 was about 4,245. Fillmore, the county seat, is 125 air miles south of Salt Lake City, Utah. Fillmore is the largest town in the survey area with a population of about 1,956. Populations of other towns in the survey area include Kanosh, 386; Meadow, 250; Holden, 402; Oak City, 587; Scipio, 291; Lynndyl, 120; and Leamington, 253.

This soil survey updates the survey of East Millard Area, Utah, published in 1959 *(6)*. It provides additional information and has larger maps, which show the soils in greater detail.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientists to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size, and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

General Nature of the Survey Area

This section briefly describes the history; industry and transportation; physiography, drainage, and geology; natural resources and water supply; and climate of the survey area.

History

The first Europeans to explore the survey area were members of the Domingez-Escalante Party, who traversed the area in the fall of 1776 *(3)*. In 1850 the area was thoroughly explored by settlers from the Salt Lake Valley. During the intervening years, the area was visited by fur traders and trappers. The first permanent settlement in the area was established in 1851 at the site of the present town of Fillmore.

Millard County was organized in 1852 as one of the original counties of the state of Deseret, which later became the Utah Territory. Fillmore was designated as the capital of the Territory, and the legislature met there from 1855 to 1858.

Most of the early settlers were members of the Church of Jesus Christ of Latter-Day Saints (Mormon Church). Many of the present inhabitants are descendants of these pioneer families. The settlements were dominantly community enterprises of the Mormon Church and were under its leadership. They were located along the larger streams. The farmers lived in the villages and traveled to the fields to work *(10)*.

Industry and Transportation

Agriculture is the main industry in the area. Irrigated alfalfa hay, small grain, and potatoes are the major crops. Corn for silage is also grown. On the high lake terraces and alluvial fans near Fillmore, Holden, and Kanosh, nonirrigated wheat is grown but yields are generally low. Much of the survey area has been seeded to grass. Livestock operations, mainly beef cattle, are a major agricultural enterprise in the area.

Areas on the alluvial fans and foothills of the Pahvant and Canyon Mountains and the Church Hills are used as pasture in spring and fall. A few dairy farms are in the Holden and Meadow areas.

A facility used for the production of fresh mushrooms is at Fillmore, and it employs 25 to 50 full-time workers. Some small manufacturing enterprises employing less than 20 workers are scattered throughout the communities in the area. Most of the larger retail businesses are in Fillmore.

U.S. Interstate 15, which runs north and south, is the major highway in the survey area. U.S. Highway 50 also runs north and south, and it serves the towns of Holden, Oak City, and Scipio. State Highway 132, which runs east and west, is the major highway between Leamington and Lynndyl. State Highway 100 runs north and south, providing access between the communities of Greenwood and Flowell. A small airport at Fillmore serves the area.

Physiography, Drainage, and Geology

The survey area is located at the eastern edge of the Basin and Range physiographic province. This province consists of uplifted, block-faulted mountains surrounded by alluvium-filled valleys. Most of the survey area is below the highest shoreline of prehistoric Lake Bonneville *(4)*.

The valley regions are filled with Holocene sediment from rivers, lake deposits, alluvial fans, and in some areas windblown sediment (dunes). The alluvial fans are terraced, which is indicative of the fluctuations in the water level of ancient Lake Bonneville.

The Canyon Mountains, in Fishlake National Forest, bisect the northern part of the survey area. These mountains are composed of a weakly cemented conglomerate of pebbles and cobbles interbedded with brick-red sandstone and shale and overlain by yellowish-purple limestone. Weathering and erosion in these mountains provide a significant portion of the coarse sediment transported by the drainageways cutting across the northeastern part of the survey area. The foothills of the Canyon Mountains have outcroppings of quartzite, sandstone, and limestone.

The Pahvant Mountains are adjacent to the southeastern part of the survey area. Runoff from these mountains flows into the channels in the southern part of the area. These mountains have a major thrust fault in which older rocks from the west have moved eastward across and onto younger rocks. Fault relationships are evident in this area.

At the foot of the Pahvant and Canyon Mountains, the soils formed dominantly on dissected alluvial fans consisting of colluvial and alluvial deposits derived from conglomerate, sandstone, quartzite, and limestone. Soils associated with the quartzite alluvium and colluvium typically are more resistant to weathering. Because of their coarse texture, these soils are important as ground water recharge areas for the region.

In the Pahvant Valley, Round Valley, Scipio Valley, and Oak City areas, alluvial fans and sand dunes make up most of the nearly level to moderately steep landscape. Sediment from ancient Lake Bonneville formed the lake plains, and fluctuations in the water level of Lake Bonneville formed the lake terraces. The active dunes and old, stabilized dunes between Flowell and Lynndyl were derived dominantly from Lake Bonneville deposits to the south-southwest. The alluvial fans are subject to a high rate of runoff in spring, which can result in deposition of cobbles, gravel, and sand in channels and on the banks of channels. Fine sediment is suspended and carried downstream and is deposited on flat, low-lying flood plains.

The stream terraces and flood plains are dominantly made up of sediment associated with the Sevier River. Holocene flows (11,000 years ago to present) have deposited unconsolidated gravel, sand, and silt over older geologic units. The soils in these areas are highly variable and mixed, and they are subject to change annually as a result of flooding.

In the western part of the survey area, the landscape is made up of sediment associated with Lake Bonneville. This sediment consists of interlayered white, light gray, brown, and tan clay, silt, sand, marl, and gravel. The marl is composed of calcareous ostracod shells with a matrix of clay. Black basaltic ash is in the marl near Leamington.

The steep landscape in the southwestern part of the area is made up of Lake Bonneville deposits associated with basalt lava flows. These lava flows are more resistant to erosion than the surrounding lake sediment. The soils formed in colluvium deposited during the slow downward movement of material on the basalt slopes. Temperature changes throughout the year contribute to the geologic weathering of the igneous rock. The rock expands and contracts, which causes it to crack and eventually break down. Hot springs are in this area.

The northern part of the survey area is drained by the Sevier River and by intermittent drainageways that extend only a short distance into the lake terraces after leaving the alluvial fans. Oak and Fool Creeks are examples. The Pahvant Valley has no drainage outlet. Wild Goose, Pioneer, Chalk, Meadow, and Corn Creeks flow into sloughs or playas at the lowest points in the valley.

Natural Resources and Water Supply

Soil, water, rock, and minerals are important natural resources in the survey area. Soil and water are the most important and most extensively used resources. They are renewable resources that can be maintained or improved with careful use and management.

On most farms, shallow wells supply the water for domestic use. Water is piped to the towns in the area from mountain springs and creeks. Along the footslopes of the mountains, springs supply the water for livestock use. In the lower lying valleys, wells are used as a source of water for irrigation.

The main sources of irrigation water are the Sevier River and the streams that originate in the Canyon and Pahvant Mountains. The areas supplied by the Sevier River generally have sufficient water throughout the growing season, but the supply of water is limited in the rest of the survey area. Generally, sufficient water is available during runoff in spring to irrigate all of the areas below the irrigation ditches. After June or during a dry spring, the streamflow decreases, and by midsummer there is a severe shortage of water. In the Pahvant Valley, water for irrigation is pumped from large wells to supplement the water available from the natural flow of streams. Other sources of irrigation water include a few artesian wells in the Flowell area.

Deposits of lava and other volcanic material are mined and used as a base for roads, for landscaping homesites, and for driveways. Travertine beds west of Meadow are quarried, and the rock is used in the construction of buildings and for landscaping homesites. Deposits of sand and gravel are abundant in the alluvial fans, and these deposits are used in the construction and maintenance of roads.

Climate

The climate of the survey area is controlled by the same general circulation pattern as the rest of Utah, but it is modified by local topography. The climate is temperate, and the moisture regime ranges from arid at the lower elevations in the western part of the area to subhumid in the foothills of the Pahvant and Canyon Mountains and in Round Valley, in the eastern part of the area.

Precipitation in October through April falls mainly as snow. This precipitation is primarily from Pacific storm fronts and occasional lows late in fall and early in spring. In winter the precipitation ranges from less than 5 inches in the western part of the area to 11 inches near Fillmore. During the growing season, precipitation ranges from less than 4 inches in the western part of the area to about 5 inches in the central and eastern parts. This precipitation is a result of lows late in spring and early in fall and thunderstorms in summer, which consist primarily of moisture from the Gulf of Mexico.

The average air temperature and length of the growing season are affected by changes in elevation and topography. Strong inversions are caused by cold air flowing down the mountainsides and collecting at the bottom of the valleys. The warmest temperatures and the longest growing seasons are near the top of the inversion. Fillmore, Oak City, and Kanosh, which are on terraces at elevations of 5,020 to 5,160 feet, have a mean annual air temperature of 51 to 52 degrees F and a frost-free season of 140 to 150 days. Deseret, which is a few miles west of the survey area on a valley bottom at an elevation of 4,585 feet, has a mean annual air temperature of 49 degrees and a frost-free season of 117 days. Scipio, which is on a valley bottom at an elevation of 5,300 feet, has a mean annual air temperature of 48 degrees and a frost-free season of 102 days.

Table 1 gives data on temperature and precipitation as recorded at Deseret, Fillmore, Kanosh, Oak City, and Scipio during the period 1928-95. Table 2 shows probable dates of first freeze in fall and last freeze in spring as recorded at Deseret, Fillmore, Oak City, and Scipio during the period 1928-95 and at Kanosh during the period 1931-95. Table 3 provides data on length of the growing season as recorded at Deseret, Fillmore, Oak City, and Scipio during the period 1928-95 and at Kanosh during the period 1931-95.

Table 1.--Temperature and Precipitation

(Recorded in the period 1928-95 at Deseret, Utah; elevation, 4,585 feet)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	37.9	12.4	25.1	59	-17	7	0.52	0.21	0.84	1	4.8
February----	45.5	18.7	32.1	67	-8	23	0.50	0.14	0.80	1	3.2
March-------	55.4	24.9	40.1	75	5	97	0.72	0.27	1.12	2	2.9
April-------	65.0	31.6	48.3	85	14	264	0.80	0.30	1.26	2	1.3
May---------	74.6	39.7	57.1	92	24	527	0.90	0.32	1.53	2	0.4
June--------	84.9	47.0	65.9	101	31	771	0.44	0.12	0.82	1	0.0
July--------	93.5	55.1	74.3	104	41	1,054	0.48	0.13	0.84	1	0.0
August------	91.0	53.2	72.1	102	37	985	0.63	0.20	1.05	2	0.0
September---	81.6	42.8	62.2	97	24	663	0.58	0.16	1.05	1	0.1
October-----	68.3	32.1	50.2	86	14	326	0.74	0.26	1.26	2	0.3
November----	51.8	21.3	36.6	72	0	57	0.60	0.21	1.03	1	1.9
December----	40.3	14.6	27.4	61	-11	10	0.56	0.20	0.92	1	3.7
Yearly:											
Average----	65.8	32.8	49.3	---	---	---	---	---	---	---	---
Extreme----	108	-32	---	104	-20	---	---	---	---	---	---
Total------	---	---	---	---	---	4,784	7.47	5.36	9.36	17	18.7

See footnote at end of table.

Table 1.--Temperature and Precipitation--Continued

(Recorded in the period 1928-95 at Fillmore, Utah; elevation, 5,120 feet)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	39.5	17.2	28.3	60	-9	11	1.40	0.68	2.03	3	15.3
February----	45.7	22.5	34.1	67	-2	35	1.44	0.67	2.10	4	12.6
March-------	54.3	28.9	41.6	74	8	127	1.91	1.01	2.70	4	13.9
April-------	63.8	36.0	49.9	83	19	310	1.64	0.75	2.40	4	6.5
May---------	73.5	43.4	58.5	90	26	572	1.40	0.52	2.21	3	2.1
June--------	84.1	51.7	67.9	99	34	835	0.80	0.16	1.43	1	0.1
July--------	92.2	60.1	76.2	102	45	1,113	0.73	0.22	1.21	2	0.0
August------	89.9	58.7	74.3	100	43	1,057	0.89	0.25	1.40	2	0.0
September---	81.4	49.7	65.5	96	29	758	0.88	0.15	1.47	2	0.3
October-----	68.4	38.5	53.4	86	19	422	1.26	0.51	2.00	3	2.1
November----	52.0	26.9	39.5	73	6	101	1.38	0.54	2.08	3	9.6
December----	41.4	19.7	30.6	63	-5	19	1.29	0.59	1.90	3	12.9
Yearly:											
Average----	65.5	37.8	51.6	---	---	---	---	---	---	---	---
Extreme----	107	-23	---	103	-12	---	---	---	---	---	---
Total------	---	---	---	---	---	5,360	15.02	11.87	17.92	34	75.3

See footnote at end of table.

Table 1.--Temperature and Precipitation--Continued

(Recorded in the period 1928-95 at Kanosh, Utah; elevation, 5,010 feet)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	39.6	17.6	28.6	61	-7	14	1.22	0.55	1.84	3	14.0
February----	46.7	23.8	35.2	68	-1	50	1.38	0.64	2.01	4	13.2
March-------	54.7	30.2	42.5	75	9	150	1.86	0.99	2.62	4	10.5
April-------	62.8	36.0	49.4	81	19	297	1.59	0.71	2.34	4	5.5
May---------	72.7	44.9	58.8	89	27	583	1.42	0.50	2.30	3	1.4
June--------	83.9	53.7	68.8	99	35	868	0.71	0.14	1.35	1	0.1
July--------	92.3	62.7	77.5	101	47	1,155	0.80	0.23	1.32	2	0.0
August------	90.1	61.0	75.6	100	43	1,078	1.00	0.32	1.59	2	0.0
September---	81.1	51.7	66.4	95	31	779	0.85	0.19	1.41	2	0.1
October-----	67.8	40.5	54.2	86	20	448	1.18	0.44	1.91	2	2.0
November----	52.3	28.5	40.4	74	7	120	1.35	0.54	2.07	3	10.0
December----	41.1	19.3	30.2	64	-6	21	1.23	0.59	1.79	3	12.2
Yearly:											
Average----	65.4	39.2	52.3	---	---	---	---	---	---	---	---
Extreme----	105	-20	---	102	-10	---	---	---	---	---	---
Total------	---	---	---	---	---	5,562	14.60	11.12	16.54	33	69.0

See footnote at end of table.

Table 1.--Temperature and Precipitation--Continued

(Recorded in the period 1928-95 at Oak City, Utah; elevation, 5,070 feet)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	39.1	17.8	28.5	59	-8	12	1.06	0.46	1.57	3	10.4
February----	45.6	23.2	34.4	66	-2	38	1.08	0.51	1.56	3	7.3
March-------	54.1	29.6	41.9	73	10	134	1.40	0.57	2.09	4	7.6
April-------	63.7	36.3	50.0	82	19	312	1.34	0.60	1.98	3	3.4
May---------	73.9	44.7	59.3	91	27	599	1.33	0.48	2.06	3	1.4
June--------	84.9	53.6	69.2	101	35	872	0.72	0.18	1.30	1	0.0
July--------	94.0	62.5	78.2	104	46	1,177	0.56	0.17	0.91	1	0.0
August------	91.8	60.7	76.2	102	43	1,109	0.87	0.26	1.40	2	0.0
September---	82.5	51.1	66.8	97	30	794	0.80	0.25	1.37	2	0.2
October-----	69.4	39.8	54.6	88	21	454	1.22	0.50	1.95	3	1.1
November----	51.8	27.3	39.5	72	6	103	1.14	0.42	1.73	3	5.8
December----	41.2	20.0	30.6	61	-4	18	1.07	0.40	1.62	3	8.5
Yearly:											
Average----	66.0	38.9	52.4	---	---	---	---	---	---	---	---
Extreme----	108	-25	---	104	-12	---	---	---	---	---	---
Total------	---	---	---	---	---	5,622	12.56	9.71	15.21	31	45.6

See footnote at end of table.

Table 1.--Temperature and Precipitation--Continued

(Recorded in the period 1928-95 at Scipio, Utah; elevation, 5,300 feet)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	38.3	10.7	24.5	58	-22	4	1.13	0.43	1.71	3	10.4
February----	44.0	17.0	30.5	64	-17	16	1.22	0.49	1.84	4	7.6
March-------	52.7	23.9	38.3	73	-1	71	1.34	0.56	2.00	4	6.6
April-------	63.1	30.4	46.7	82	13	225	1.10	0.49	1.63	3	1.1
May---------	72.9	37.6	55.2	90	21	472	1.14	0.39	1.79	3	0.3
June--------	82.3	44.7	63.5	97	28	697	0.77	0.25	1.38	2	0.0
July--------	89.8	53.4	71.6	100	37	976	0.78	0.29	1.24	2	0.0
August------	87.5	51.9	69.7	98	35	915	1.04	0.37	1.62	3	0.0
September---	79.7	41.2	60.4	93	21	612	0.92	0.27	1.55	2	0.0
October-----	67.4	30.8	49.1	84	12	298	1.25	0.54	1.93	3	0.2
November----	51.1	20.7	35.9	71	-4	51	1.05	0.40	1.59	3	4.5
December----	40.8	13.4	27.1	61	-18	7	1.11	0.41	1.73	3	6.5
Yearly:											
Average----	64.1	31.3	47.7	---	---	---	---	---	---	---	---
Extreme----	105	-40	---	101	-28	---	---	---	---	---	---
Total------	---	---	---	---	---	4,344	12.85	8.21	15.77	35	37.3

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (Threshold: 40 degrees F).

Table 2.--Freeze Dates in Spring and Fall

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
(Recorded in the period 1928-95 at Deseret, Utah; elevation, 4,585 feet)			
Last freezing temperature in spring:			
1 year in 10 later than--	May 10	May 23	June 14
2 years in 10 later than--	May 4	May 17	June 7
5 years in 10 later than--	April 24	May 6	May 25
First freezing temperature in fall:			
1 year in 10 earlier than--	Sept. 25	Sept. 13	Sept. 6
2 years in 10 earlier than--	Oct. 1	Sept. 18	Sept. 11
5 years in 10 earlier than--	Oct. 12	Sept. 28	Sept. 19
(Recorded in the period 1928-95 at Fillmore, Utah; elevation, 5,120 feet)			
Last freezing temperature in spring:			
1 year in 10 later than--	May 5	May 21	June 1
2 years in 10 later than--	April 26	May 13	May 25
5 years in 10 later than--	April 8	April 26	May 13
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 12	Sept. 27	Sept. 19
2 years in 10 earlier than--	Oct. 18	Oct. 4	Sept. 25
5 years in 10 earlier than--	Oct. 30	Oct. 17	Oct. 6

Table 2.--Freeze Dates in Spring and Fall--Continued

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
(Recorded in the period 1931-95 at Kanosh, Utah; elevation, 5,010 feet)			
Last freezing temperature in spring:			
1 year in 10 later than--	May 1	May 14	June 1
2 years in 10 later than--	April 22	May 6	May 26
5 years in 10 later than--	April 4	April 20	May 14
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 13	Sept. 30	Sept. 20
2 years in 10 earlier than--	Oct. 19	Oct. 7	Sept. 27
5 years in 10 earlier than--	Oct. 31	Oct. 21	Oct. 10
(Recorded in the period 1928-95 at Oak City, Utah; elevation, 5,070 feet)			
Last freezing temperature in spring:			
1 year in 10 later than--	April 29	May 14	May 31
2 years in 10 later than--	April 21	May 7	May 25
5 years in 10 later than--	April 6	April 25	May 13
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 18	Oct. 2	Sept. 20
2 years in 10 earlier than--	Oct. 23	Oct. 8	Sept. 26
5 years in 10 earlier than--	Nov. 1	Oct. 20	Oct. 8

Table 2.--Freeze Dates in Spring and Fall--Continued

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
(Recorded in the period 1928-95 at Scipio, Utah; elevation, 5,300 feet)			
Last freezing temperature in spring:			
1 year in 10 later than--	May 20	June 11	June 22
2 years in 10 later than--	May 14	June 4	June 16
5 years in 10 later than--	May 2	May 21	June 4
First freezing temperature in fall:			
1 year in 10 earlier than--	Sept. 20	Sept. 10	Sept. 2
2 years in 10 earlier than--	Sept. 25	Sept. 15	Sept. 6
5 years in 10 earlier than--	Oct. 6	Sept. 24	Sept. 15

Table 3.--Growing Season

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
(Recorded in the period 1928-95 at Deseret, Utah; elevation, 4,585 feet)			
	Days	Days	Days
9 years in 10	146	121	92
8 years in 10	154	129	101
5 years in 10	170	145	117
2 years in 10	186	160	133
1 year in 10	194	168	141
(Recorded in the period 1928-95 at Fillmore, Utah; elevation, 5,120 feet)			
	Days	Days	Days
9 years in 10	169	136	117
8 years in 10	181	149	127
5 years in 10	205	173	145
2 years in 10	229	196	164
1 year in 10	241	209	173
(Recorded in the period 1931-95 at Kanosh, Utah; elevation, 5,010 feet)			
	Days	Days	Days
9 years in 10	172	148	120
8 years in 10	184	160	130
5 years in 10	208	183	149
2 years in 10	231	206	168
1 year in 10	243	219	178

Table 3.--Growing Season--Continued

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F

(Recorded in the period 1928-95 at Oak City, Utah; elevation, 5,070 feet)

	Days	Days	Days
9 years in 10	180	149	121
8 years in 10	189	159	130
5 years in 10	208	177	147
2 years in 10	227	195	163
1 year in 10	237	205	172

(Recorded in the period 1928-95 at Scipio, Utah; elevation, 5,300 feet)

	Days	Days	Days
9 years in 10	131	105	80
8 years in 10	139	112	87
5 years in 10	155	126	102
2 years in 10	171	139	117
1 year in 10	180	147	125

Detailed Soil Map Units

The map units on the detailed maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given in the tables of this survey.

A map unit delineation on the detailed soil maps represents an area on the landscape and consists of one or more soils or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils or miscellaneous areas. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils and miscellaneous areas are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, are mapped without areas of minor components of other taxonomic classes. Consequently, map units are made up of the soils or miscellaneous areas for which they are named and some areas of minor components that belong to other taxonomic classes.

Minor components have properties and behavioral characteristics divergent enough to affect use or to require different management. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The minor components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying layers, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying layers. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Hiko Peak extremely stony loam, 4 to 15 percent slopes, is a phase of the Hiko Peak series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or associations.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Borvant-Jardal complex, 5 to 15 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Hiko Peak-Heist association, 2 to 15 percent slopes, is an example.

This survey includes *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see Summary of Tables) give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

1—Amtoft-Rock outcrop complex, 8 to 35 percent slopes

Setting

Landform: Hills
Position on landform: Amtoft—backslopes; Rock outcrop—summits
Slope: 8 to 35 percent
Elevation: 5,300 to 5,600 feet
Mean annual air temperature: 45 to 49 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 110 days

Composition

Major components:
Amtoft and similar soils—75 percent
Rock outcrop—15 percent

Minor components:
Checkett very stony loam—5 percent
Hiko Peak stony fine sandy loam—5 percent

Characteristics of the Amtoft Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone, sandstone, and conglomerate
Available water capacity: About 2 inches
Typical profile:
0 to 8 inches—gravelly loam
8 to 19 inches—very cobbly loam
19 inches—unweathered bedrock

Characteristics of the Rock Outcrop

Description of areas: Exposures of barren bedrock

Interpretive Groups

Land capability classification: Amtoft—7s, nonirrigated; Rock outcrop—8
Range site: Amtoft—Semidesert Shallow Loam (Utah Juniper-Bluebunch Wheatgrass); Rock outcrop—not assigned

2—Amtoft-Spager complex, 15 to 30 percent slopes

Setting

Landform: Amtoft—hills; Spager—hillslopes and fan remnants
Position on landform: Amtoft—backslopes and summits; Spager—backslopes and footslopes
Slope: Amtoft—15 to 30 percent; Spager—15 to 20 percent
Elevation: 5,300 to 6,300 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 120 days

Composition

Major components:
Amtoft and similar soils—50 percent
Spager and similar soils—35 percent

Minor components:
Borvant very gravelly loam—10 percent
Rock outcrop—5 percent

Characteristics of the Amtoft Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone, sandstone, and conglomerate
Available water capacity: About 2 inches
Typical profile:
0 to 8 inches—gravelly loam
8 to 19 inches—very cobbly loam
19 inches—unweathered bedrock

Characteristics of the Spager Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Alluvium derived from limestone and quartzite

Available water capacity: About 1 inch
Typical profile:
0 to 2 inches—gravelly very fine sandy loam
2 to 11 inches—very gravelly very fine sandy loam
11 inches—indurated hardpan

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Amtoft—Semidesert Shallow Loam (Utah Juniper-Bluebunch Wheatgrass); Spager—Semidesert Shallow Hardpan (Utah Juniper)

3—Ashdown loam, 0 to 2 percent slopes

Setting

Landform: Alluvial fans and alluvial flats
Slope: 0 to 2 percent
Elevation: 4,800 to 5,000 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Ashdown and similar soils—85 percent

Minor components:
Boxelder silt loam—5 percent
Calita very fine sandy loam—5 percent
Erda silt loam—5 percent

Characteristics of the Ashdown Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material:
Alluvium derived from sandstone and conglomerate
Available water capacity: About 10 inches
Typical profile:
0 to 20 inches—loam
20 to 60 inches—loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

4—Ashdown loam, 2 to 5 percent slopes

Setting

Landform: Alluvial fans and alluvial flats
Slope: 2 to 5 percent
Elevation: 4,800 to 5,000 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Ashdown and similar soils—85 percent

Minor components:
Boxelder silt loam—5 percent
Calita very fine sandy loam—5 percent
Erda silt loam—5 percent

Characteristics of the Ashdown Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sandstone and conglomerate
Available water capacity: About 10 inches
Typical profile:
0 to 20 inches—loam
20 to 60 inches—loam

Interpretive Groups

Land capability classification: 2e, irrigated, and 6e, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

5—Atepic-Rock outcrop complex, 10 to 50 percent slopes

Setting

Landform: Hills
Position on landform: Atepic—backslopes; Rock outcrop—shoulders and summits
Slope: 10 to 50 percent
Elevation: 5,600 to 7,200 feet
Mean annual air temperature: 45 to 49 degrees F
Mean annual precipitation: 12 to 14 inches
Frost-free period: 100 to 120 days

Composition

Major components:
Atepic and similar soils—65 percent
Rock outcrop—20 percent

Minor components:
Kapod very stony loam—10 percent
Church Springs silt loam—5 percent

Characteristics of the Atepic Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from shale
Available water capacity: About 2 inches
Typical profile:
0 to 2 inches—very stony clay loam
2 to 18 inches—flaggy clay loam
18 to 25 inches—weathered bedrock

Characteristics of the Rock Outcrop

Description of areas: Exposures of barren bedrock

Interpretive Groups

Land capability classification: Atepic—7s, nonirrigated; Rock outcrop—8
Range site: Atepic—Upland Shallow Loam (Pinyon-Utah Juniper); Rock outcrop—not assigned

6—Atepic-Sonlet association, 30 to 60 percent slopes

Setting

Landform: Mountain slopes
Position on landform: Atepic—south-facing slopes; Sonlet—north-facing slopes
Slope: Atepic—30 to 50 percent; Sonlet—30 to 60 percent
Elevation: 6,200 to 7,200 feet
Mean annual air temperature: 42 to 47 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 80 to 110 days

Composition

Major components:
Atepic and similar soils—40 percent
Sonlet and similar soils—40 percent

Minor components:
Lonjon stony loam—10 percent
Kapod very stony loam—5 percent
Amtoft gravelly loam—5 percent

Characteristics of the Atepic Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Residuum and colluvium derived from shale
Available water capacity: About 2 inches
Typical profile:
0 to 2 inches—very stony clay loam
2 to 18 inches—flaggy clay loam
18 to 25 inches—weathered bedrock

Characteristics of the Sonlet Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Colluvium and residuum derived from sandstone
Available water capacity: About 2 inches
Typical profile:
0 to 4 inches—extremely stony loam
4 to 10 inches—very cobbly loam
10 to 19 inches—extremely cobbly loam
19 inches—unweathered bedrock

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Upland Shallow Loam (Pinyon-Utah Juniper)

7—Bandag loam, 0 to 2 percent slopes

Setting

Landform: Alluvial fans and alluvial flats
Slope: 0 to 2 percent
Elevation: 4,700 to 5,200 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 160 days

Composition

Major components:
Bandag and similar soils—85 percent

Minor components:
Boxelder silt loam—5 percent
Escalante sandy loam—5 percent
Erda silt loam—5 percent

Characteristics of the Bandag Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 10 inches

Typical profile:
0 to 7 inches—loam
7 to 60 inches—loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

8—Bandag loam, 2 to 5 percent slopes

Setting

Landform: Alluvial fans and alluvial flats
Slope: 2 to 5 percent
Elevation: 4,700 to 5,200 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 160 days

Composition

Major components:
Bandag and similar soils—85 percent

Minor components:
Escalante sandy loam—5 percent
Erda silt loam—5 percent
Boxelder silt loam—5 percent

Characteristics of the Bandag Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 10 inches
Typical profile:
0 to 7 inches—loam
7 to 60 inches—loam

Interpretive Groups

Land capability classification: 3e, irrigated, and 6e, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

9—Bandag-Berent complex, 0 to 8 percent slopes

Setting

Landform: Bandag—alluvial flats; Berent—sand dunes
Slope: Bandag—0 to 5 percent; Berent—2 to 8 percent
Elevation: 4,700 to 4,900 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 160 days

Composition

Major components:
Bandag and similar soils—50 percent
Berent and similar soils—25 percent

Minor components:
Mellor silt loam—10 percent
Heist fine sandy loam—10 percent
Freedom silt loam—5 percent

Characteristics of the Bandag Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 10 inches
Typical profile:
0 to 7 inches—loam
7 to 60 inches—loam

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine sediment
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—loamy fine sand
8 to 60 inches—fine sand

Interpretive Groups

Land capability classification: Bandag—6e, nonirrigated; Berent—7s, nonirrigated
Range site: Bandag—Semidesert Loam (Wyoming Big Sagebrush); Berent—Semidesert Sand (Fourwing Saltbush)

10—Beckstrand-Benstot complex, 0 to 2 percent slopes

Setting

Landform: Flood plains
Slope: 0 to 2 percent
Elevation: 4,600 to 4,800 feet
Mean annual air temperature: 47 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Beckstrand and similar soils—45 percent
Benstot and similar soils—45 percent

Minor components:
Poganeab loam—3 percent
Heist fine sandy loam—2 percent
Manassa silt loam—2 percent
Deseret silt loam—1 percent
Ashdown loam—1 percent
Pober gravelly loam—1 percent

Characteristics of the Beckstrand Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from limestone and sandstone
Frequency of flooding: Rare
Depth to apparent water table: 24 to 36 inches
Available water capacity: About 8 inches
Typical profile:
0 to 8 inches—loam
8 to 17 inches—loam
17 to 34 inches—fine sandy loam
34 to 60 inches—loam

Characteristics of the Benstot Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from limestone and sandstone
Frequency of flooding: Rare
Depth to apparent water table: 30 to 48 inches
Available water capacity: About 10 inches
Typical profile:
0 to 8 inches—loam
8 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 6w, nonirrigated
Range site: Semiwet Fresh Meadow

11—Benstot-Scipio complex, 0 to 2 percent slopes

Setting

Landform: Flood plains
Slope: 0 to 2 percent
Elevation: 5,700 to 6,000 feet
Mean annual air temperature: 46 to 51 degrees F
Mean annual precipitation: 12 to 14 inches
Frost-free period: 100 to 120 days

Composition

Major components:
Benstot and similar soils—50 percent
Scipio and similar soils—35 percent

Minor components:
Manassa silt loam—5 percent
Mellor silt loam—5 percent
Probert loam—3 percent
Pober gravelly loam—2 percent

Characteristics of the Benstot Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from limestone and sandstone
Frequency of flooding: Rare
Depth to apparent water table: 30 to 48 inches
Available water capacity: About 10 inches
Typical profile:
0 to 8 inches—loam
8 to 60 inches—silt loam

Characteristics of the Scipio Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Frequency of flooding: Rare
Depth to apparent water table: 12 to 20 inches
Available water capacity: About 10 inches
Typical profile:
0 to 5 inches—loam
5 to 11 inches—loam
11 to 21 inches—silt loam
21 to 36 inches—sandy loam
36 to 60 inches—silt loam

Interpretive Groups

Land capability classification: Benstot—6w, nonirrigated; Scipio—4w, nonirrigated
Range site: Benstot—Semiwet Fresh Meadow; Scipio—Wet Fresh Meadow

12—Bentaxle-Lodar complex, 15 to 50 percent slopes

Setting

Landform: Bentaxle—hillslopes and mountain slopes; Lodar—mountain slopes
Position on landform: Bentaxle—west-facing backslopes; Lodar—north-facing backslopes
Slope: 15 to 50 percent

Elevation: 5,600 to 6,500 feet
Mean annual air temperature: 45 to 49 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 90 to 130 days

Composition

Major components:
Bentaxle and similar soils—50 percent
Lodar and similar soils—35 percent

Minor components:
Spager gravelly very fine sandy loam—5 percent
Rock outcrop—5 percent
Pober gravelly loam—5 percent

Characteristics of the Bentaxle Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone and sandstone
Available water capacity: About 2 inches
Typical profile:
0 to 5 inches—gravelly loam
5 to 14 inches—very cobbly loam
14 to 19 inches—very gravelly fine sandy loam
19 inches—unweathered bedrock

Characteristics of the Lodar Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone and sandstone
Available water capacity: About 2 inches
Typical profile:
0 to 3 inches—extremely stony loam
3 to 10 inches—very gravelly loam
10 to 17 inches—very gravelly loam
17 inches—unweathered bedrock

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Upland Shallow Loam (Pinyon-Utah Juniper)

13—Bentaxle-Rock outcrop complex, 35 to 70 percent slopes

Setting

Landform: Mountains
Position on landform: Bentaxle—backslopes; Rock outcrop—shoulders and summits
Slope: 35 to 70 percent
Elevation: 5,300 to 6,500 feet
Mean annual air temperature: 45 to 49 degrees F
Mean annual precipitation: 12 to 14 inches
Frost-free period: 100 to 130 days

Composition

Major components:
Bentaxle and similar soils—55 percent
Rock outcrop—25 percent

Minor components:
Checkett very stony loam—5 percent
Hiko Peak gravelly loam—5 percent
Lodar extremely stony loam—5 percent
Lizzant extremely cobbly loam—5 percent

Characteristics of the Bentaxle Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone and sandstone
Available water capacity: About 2 inches
Typical profile:
0 to 3 inches—stony loam
3 to 5 inches—gravelly loam
5 to 14 inches—very cobbly loam
14 to 19 inches—very gravelly fine sandy loam
19 inches—unweathered bedrock

Characteristics of the Rock Outcrop

Description of areas: Exposures of barren bedrock

Interpretive Groups

Land capability classification: Bentaxle—7s, nonirrigated; Rock outcrop—8
Range site: Bentaxle—Upland Shallow Loam (Pinyon-Utah Juniper); Rock outcrop—not assigned

14—Berent loamy fine sand, 5 to 30 percent slopes

Setting

Landform: Dunes
Slope: 5 to 30 percent
Elevation: 4,800 to 5,100 feet
Mean annual air temperature: 48 to 51 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Berent and similar soils—85 percent

Minor components:
Heist fine sandy loam—5 percent

Jigsaw silt loam—5 percent
Oakcity loam—5 percent

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—loamy fine sand
8 to 60 inches—fine sand

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Semidesert Sand (Fourwing Saltbush)

15—Berent-Oakcity-Heist complex, 0 to 15 percent slopes

Setting

Landform: Berent—dunes; Oakcity—lake plains and lake terraces; Heist—lake terraces
Slope: Berent—8 to 15 percent; Oakcity—0 to 2 percent; Heist—0 to 8 percent
Elevation: 4,800 to 4,900 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Berent and similar soils—30 percent
Oakcity and similar soils—30 percent
Heist and similar soils—30 percent

Minor components:
Poganeab loam—3 percent
Green River loam—3 percent
Escalante sandy loam—2 percent
Boxelder silt loam—1 percent
Genola silt loam—1 percent

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—loamy fine sand
8 to 60 inches—fine sand

Characteristics of the Oakcity Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Available water capacity: About 9 inches
Typical profile:
0 to 5 inches—loam
5 to 10 inches—clay loam
10 to 15 inches—silty clay loam
15 to 60 inches—silty clay

Characteristics of the Heist Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 7 inches
Typical profile:
0 to 14 inches—fine sandy loam
14 to 60 inches—fine sandy loam

Interpretive Groups

Land capability classification: Berent—4s, irrigated, and 7s, nonirrigated; Oakcity—3s, irrigated, and 6s, nonirrigated; Heist—2e, irrigated, and 7e, nonirrigated
Range site: Berent—Semidesert Sand (Fourwing Saltbush); Oakcity—Semidesert Loam (Wyoming Big Sagebrush); Heist—Semidesert Sandy Loam (Wyoming Big Sagebrush)

16—Berent-Taylorsflat-Mellor complex, 0 to 15 percent slopes

Setting

Landform: Berent—dunes; Taylorsflat—lake terraces; Mellor—lake plains
Slope: Berent—2 to 15 percent; Taylorsflat and Mellor—0 to 2 percent
Elevation: 4,700 to 4,800 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 10 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Berent and similar soils—35 percent
Taylorsflat and similar soils—30 percent
Mellor and similar soils—25 percent

Minor components:
Poganeab loam—5 percent
Puddle fine sandy loam—5 percent

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—loamy fine sand
8 to 60 inches—fine sand

Characteristics of the Taylorsflat Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits derived from sedimentary rock
Salinity: Saline within a depth of 30 inches
Available water capacity: About 8 inches
Typical profile:
0 to 3 inches—loam
3 to 60 inches—loam

Characteristics of the Mellor Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 5 inches
Typical profile:
0 to 6 inches—silt loam
6 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Berent—Semidesert Sand (Fourwing Saltbush); Taylorsflat—Semidesert Loam (Wyoming Big Sagebrush); Mellor—Alkali Flat (Black Greasewood)

17—Bonolden silt loam, 0 to 5 percent slopes

Setting

Landform: Alluvial fans and alluvial flats
Slope: 0 to 5 percent
Elevation: 4,800 to 5,600 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 12 to 14 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Bonolden and similar soils—90 percent

Minor components:
Hiko Peak fine sandy loam—5 percent
Bandag loam—5 percent

Characteristics of the Bonolden Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 10 inches
Typical profile:
0 to 7 inches—silt loam
7 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 2e, irrigated, and 4e, nonirrigated
Range site: Upland Loam (Basin Big Sagebrush)

18—Bonolden-Erda complex, 0 to 3 percent slopes

Setting

Landform: Alluvial fans and alluvial flats
Slope: 0 to 3 percent
Elevation: 5,200 to 5,600 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Bonolden and similar soils—45 percent
Erda and similar soils—40 percent

Minor components:
Donnardo gravelly fine sandy loam—10 percent
Scipio loam—5 percent

Characteristics of the Bonolden Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 10 inches

Typical profile:
0 to 7 inches—silt loam
7 to 60 inches—silt loam

Characteristics of the Erda Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 10 inches
Typical profile:
0 to 6 inches—silt loam
6 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 4e, nonirrigated
Range site: Upland Loam (Basin Big Sagebrush)

19—Borvant very gravelly loam, 15 to 40 percent slopes

Setting

Landform: Mountain slopes
Position on landform: Backslopes and footslopes
Slope: 15 to 40 percent
Elevation: 5,200 to 6,500 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Borvant and similar soils—90 percent

Minor components:
Donnardo very stony loam—5 percent
Larwood fine sandy loam—3 percent
Jardal gravelly very fine sandy loam—2 percent

Characteristics of the Borvant Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone and sandstone
Available water capacity: About 1 inch
Typical profile:
0 to 7 inches—very gravelly loam
7 to 14 inches—extremely gravelly loam
14 inches—indurated hardpan

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Upland Shallow Hardpan (Pinyon-Utah Juniper)

20—Borvant-Jardal complex, 15 to 40 percent slopes

Setting

Landform: Hillslopes and ridges
Position on landform: Backslopes
Slope: 15 to 40 percent
Elevation: 5,300 to 6,300 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 120 days

Composition

Major components:
Borvant and similar soils—50 percent
Jardal and similar soils—35 percent

Minor components:
Preston fine sand—5 percent
Larwood fine sandy loam—5 percent
Sonlet extremely stony loam—5 percent

Characteristics of the Borvant Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone and sandstone
Available water capacity: About 1 inch
Typical profile:
0 to 7 inches—very gravelly loam
7 to 14 inches—extremely gravelly loam
14 inches—indurated hardpan

Characteristics of the Jardal Soil

Depth class: Moderately deep (20 to 40 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from quartzite, sandstone, and conglomerate
Available water capacity: About 2 inches
Typical profile:
0 to 4 inches—gravelly very fine sandy loam
4 to 9 inches—very gravelly very fine sandy loam
9 to 26 inches—extremely gravelly very fine sandy loam
26 to 30 inches—indurated hardpan

Interpretive Groups

Land capability classification: Borvant—7s, nonirrigated; Jardal—7e, nonirrigated

Range site: Borvant—Upland Shallow Hardpan (Pinyon-Utah Juniper); Jardal—Upland Stony Loam (Wyoming Big Sagebrush)

21—Borvant-Jardal complex, 5 to 15 percent slopes

Setting

Landform: Fan remnants
Slope: 5 to 15 percent
Elevation: 5,300 to 5,800 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 120 days

Composition

Major components:
Borvant and similar soils—50 percent
Jardal and similar soils—35 percent

Minor components:
Preston fine sand—5 percent
Larwood fine sandy loam—5 percent
Lodar extremely stony loam—5 percent

Characteristics of the Borvant Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone and sandstone
Available water capacity: About 1 inch
Typical profile:
0 to 7 inches—very gravelly loam
7 to 14 inches—extremely gravelly loam
14 inches—indurated hardpan

Characteristics of the Jardal Soil

Depth class: Moderately deep (20 to 40 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from quartzite, sandstone, and conglomerate
Available water capacity: About 2 inches
Typical profile:
0 to 4 inches—gravelly very fine sandy loam
4 to 9 inches—very gravelly very fine sandy loam
9 to 26 inches—extremely gravelly very fine sandy loam
26 to 30 inches—indurated hardpan

Interpretive Groups

Land capability classification: Borvant—7s, nonirrigated; Jardal—7e, nonirrigated
Range site: Borvant—Upland Shallow Hardpan (Pinyon-Utah Juniper); Jardal—Upland Stony Loam (Wyoming Big Sagebrush)

22—Borvant-Pavant complex, 2 to 15 percent slopes

Setting

Landform: Fan remnants
Slope: 2 to 15 percent
Elevation: 5,200 to 6,000 feet
Mean annual air temperature: 45 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Borvant and similar soils—55 percent
Pavant and similar soils—30 percent

Minor components:
Donnardo very stony loam—5 percent
Maple Hollow loam—5 percent
Pober gravelly loam—5 percent

Characteristics of the Borvant Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 1 inch
Typical profile:
0 to 7 inches—very gravelly loam
7 to 14 inches—extremely gravelly loam
14 inches—indurated hardpan

Characteristics of the Pavant Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 2 inches
Typical profile:
0 to 4 inches—loam
4 to 17 inches—loam
17 inches—indurated hardpan

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Upland Shallow Hardpan (Pinyon-Utah Juniper)

23—Boxelder silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains and lake terraces
Slope: 0 to 2 percent
Elevation: 4,600 to 5,000 feet
Mean annual air temperature: 48 to 54 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 160 days

Composition

Major components:
Boxelder and similar soils—85 percent

Minor components:
Berent loamy fine sand—5 percent
Bandag loam—5 percent
Pavant loam—3 percent
Mellor silt loam—2 percent

Characteristics of the Boxelder Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from calcareous sediment with diatomaceous deposits
Available water capacity: About 10 inches
Typical profile:
0 to 5 inches—silt loam
5 to 27 inches—loam
27 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Limy Loam

24—Boxelder silt loam, 2 to 5 percent slopes

Setting

Landform: Lake terraces
Slope: 2 to 5 percent
Elevation: 4,600 to 5,000 feet
Mean annual air temperature: 48 to 54 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 110 to 160 days

Composition

Major components:
Boxelder and similar soils—85 percent

Minor components:
Mellor silt loam—5 percent
Berent loamy fine sand—5 percent
Shotwell very cobbly loam—3 percent
Cloyd gravelly loam—2 percent

Characteristics of the Boxelder Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from calcareous sediment with diatomaceous deposits
Available water capacity: About 10 inches
Typical profile:
0 to 5 inches—silt loam
5 to 27 inches—loam
27 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 6c, nonirrigated
Range site: Semidesert Limy Loam

25—Calita-Erda complex, 0 to 2 percent slopes

Setting

Landform: Alluvial flats
Slope: 0 to 2 percent
Elevation: 4,800 to 5,500 feet
Mean annual air temperature: 47 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Calita and similar soils—60 percent
Erda and similar soils—30 percent

Minor components:
Borvant very gravelly loam—3 percent
Donnardo very stony loam—5 percent
Oakcity loam—2 percent

Characteristics of the Calita Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 9 inches
Typical profile:
0 to 8 inches—very fine sandy loam
8 to 16 inches—silt loam
16 to 60 inches—loam

Characteristics of the Erda Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained

Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 10 inches
Typical profile:
0 to 6 inches—silt loam
6 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 4c, nonirrigated

26—Calita-Erda complex, 2 to 8 percent slopes

Setting

Landform: Alluvial fans
Slope: 2 to 8 percent
Elevation: 5,000 to 6,000 feet
Mean annual air temperature: 47 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Calita and similar soils—60 percent
Erda and similar soils—30 percent

Minor components:
Borvant very gravelly loam—5 percent
Donnardo very stony loam—3 percent
Oakcity loam—2 percent

Characteristics of the Calita Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 9 inches
Typical profile:
0 to 8 inches—very fine sandy loam
8 to 16 inches—silt loam
16 to 60 inches—loam

Characteristics of the Erda Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 10 inches
Typical profile:
0 to 6 inches—silt loam
6 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 3e, irrigated, and 4e, nonirrigated

27—Cessna loam, 0 to 5 percent slopes

Setting

Landform: Alluvial fans and stream terraces
Slope: 0 to 5 percent
Elevation: 4,900 to 5,300 feet
Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 12 to 14 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Cessna and similar soils—90 percent

Minor components:
Poganeab loam—2 percent
Donnardo very stony loam—3 percent
Calita loam—3 percent
Heist fine sandy loam—2 percent

Characteristics of the Cessna Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sedimentary rock
Available water capacity: About 10 inches
Typical profile:
0 to 10 inches—loam
10 to 60 inches—loam

Interpretive Groups

Land capability classification: 2e, irrigated, and 4e, nonirrigated
Range site: Upland Loam (Basin Big Sagebrush)

28—Checkett-Amtoft complex, 8 to 35 percent slopes

Setting

Landform: Hills
Position on landform: Checkett—hillslopes; Amtoft—backslopes and shoulders
Slope: 8 to 35 percent
Elevation: 5,300 to 5,900 feet
Mean annual air temperature: 45 to 49 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 120 days

Composition

Major components:
Checkett and similar soils—45 percent
Amtoft and similar soils—35 percent

Minor components:
Lonjon stony loam—10 percent
Lizzant extremely cobbly loam—5 percent
Sonlet extremely stony loam—3 percent
Atepic very stony clay loam—2 percent

Characteristics of the Checkett Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Colluvium and residuum derived from quartzite
Available water capacity: About 2 inches
Typical profile:
0 to 4 inches—very stony loam
4 to 8 inches—very cobbly loam
8 to 16 inches—very cobbly clay loam
16 inches—unweathered bedrock

Characteristics of the Amtoft Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone, sandstone, and conglomerate
Available water capacity: About 2 inches
Typical profile:
0 to 8 inches—gravelly loam
8 to 19 inches—very cobbly loam
19 inches—unweathered bedrock

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Semidesert Shallow Loam (Utah Juniper-Bluebunch Wheatgrass)

29—Church Springs silt loam, 3 to 10 percent slopes

Setting

Landform: Fan remnants and hillslopes
Slope: 3 to 10 percent
Elevation: 6,500 to 7,500 feet
Mean annual air temperature: 40 to 43 degrees F
Mean annual precipitation: 14 to 16 inches
Frost-free period: 70 to 90 days

Composition

Major components:
Church Springs and similar soils—90 percent

Minor components:
Bentaxle gravelly loam—5 percent
Lodar extremely stony loam—5 percent

Characteristics of the Church Springs Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 10 inches
Typical profile:
0 to 10 inches—silt loam
10 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 4e, nonirrigated
Range site: Upland Loam (Basin Big Sagebrush)

30—Cloyd-Rock outcrop complex, 5 to 20 percent slopes

Setting

Landform: Hills
Position on landform: Cloyd—hillslopes and ridges; Rock outcrop—shoulders and summits
Slope: 5 to 20 percent
Elevation: 4,800 to 5,000 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Cloyd and similar soils—65 percent
Rock outcrop—25 percent

Minor components:
Ashdown loam—5 percent
Hiko Peak gravelly loam—3 percent
Heist fine sandy loam—2 percent

Characteristics of the Cloyd Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Residuum derived from travertine

Available water capacity: About 2 inches
Typical profile:
0 to 3 inches—gravelly loam
3 to 7 inches—cobbly loam
7 to 15 inches—gravelly loam
15 inches—unweathered bedrock

Characteristics of the Rock Outcrop

Description of areas: Exposures of barren bedrock

Interpretive Groups

Land capability classification: Cloyd—7s, nonirrigated; Rock outcrop—8
Range site: Cloyd—Semidesert Shallow Loam (Black Sagebrush); Rock outcrop—not assigned

31—Collard gravelly loam, 2 to 5 percent slopes

Setting

Landform: Alluvial fans and fan remnants
Slope: 2 to 5 percent
Elevation: 4,800 to 5,500 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 14 inches
Frost-free period: 100 to 150 days

Composition

Major components:
Collard and similar soils—90 percent

Minor components:
Borvant very gravelly loam—5 percent
Donnardo very stony loam—5 percent

Characteristics of the Collard Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from quartzite, sandstone, and conglomerate
Available water capacity: About 4 inches
Typical profile:
0 to 9 inches—gravelly loam
9 to 17 inches—very cobbly clay loam
17 to 28 inches—very cobbly sandy loam
28 to 60 inches—very cobbly loamy sand

Interpretive Groups

Land capability classification: 6s, nonirrigated
Range site: Upland Stony Loam (Wyoming Big Sagebrush)

32—Curdli loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Slope: 0 to 2 percent
Elevation: 4,600 to 4,700 feet
Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 115 to 140 days

Composition

Major components:
Curdli and similar soils—85 percent

Minor components:
Uvada clay loam—10 percent
Yenrab loamy fine sand—5 percent

Characteristics of the Curdli Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Available water capacity: About 7 inches
Typical profile:
0 to 10 inches—loam
10 to 15 inches—loam
15 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 7e, nonirrigated
Range site: Desert Flat (Shadscale)

33—Current Spring gravelly loam, 30 to 50 percent slopes

Setting

Landform: Hillslopes and mountain slopes
Slope: 30 to 50 percent
Elevation: 5,400 to 6,500 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 14 to 16 inches
Frost-free period: 100 to 150 days

Composition

Major components:
Current Spring and similar soils—85 percent

Minor components:
Borvant very gravelly loam—10 percent
Calita loam—5 percent

Characteristics of the Current Spring Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 6 inches
Typical profile:
0 to 5 inches—gravelly loam
5 to 13 inches—gravelly clay loam
13 to 24 inches—very gravelly clay loam
24 to 41 inches—very gravelly clay
41 to 60 inches—very gravelly clay loam

Interpretive Groups

Land capability classification: 7e, nonirrigated
Range site: Upland Stony Loam (Wyoming Big Sagebrush)

34—Current Spring-Maple Hollow complex, 5 to 15 percent slopes

Setting

Landform: Current Spring—hillslopes; Maple Hollow—fan remnants
Slope: 5 to 15 percent
Elevation: 5,400 to 6,500 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 14 to 16 inches
Frost-free period: 100 to 150 days

Composition

Major components:
Current Spring and similar soils—50 percent
Maple Hollow and similar soils—35 percent

Minor components:
Donnardo very stony loam—10 percent
Borvant very gravelly loam—5 percent

Characteristics of the Current Spring Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 6 inches
Typical profile:
0 to 5 inches—gravelly loam
5 to 13 inches—gravelly clay loam
13 to 24 inches—very gravelly clay loam
24 to 41 inches—very gravelly clay
41 to 60 inches—very gravelly clay loam

Characteristics of the Maple Hollow Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 10 inches
Typical profile:
0 to 2 inches—loam
2 to 16 inches—clay loam
16 to 44 inches—clay
44 to 60 inches—loam

Interpretive Groups

Land capability classification: 6e, nonirrigated
Range site: Current Spring—Upland Stony Loam (Wyoming Big Sagebrush); Maple Hollow—Upland Loam (Basin Big Sagebrush)

35—Current Spring-Maple Hollow complex, 15 to 30 percent slopes

Setting

Landform: Current Spring—hillslopes; Maple Hollow—fan remnants
Slope: Current Spring—15 to 30 percent; Maple Hollow—15 to 20 percent
Elevation: 5,400 to 6,500 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 14 to 16 inches
Frost-free period: 100 to 150 days

Composition

Major components:
Current Spring and similar soils—55 percent
Maple Hollow and similar soils—30 percent

Minor components:
Borvant very gravelly loam—10 percent
Pavant loam—3 percent
Collard gravelly loam—2 percent

Characteristics of the Current Spring Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 6 inches
Typical profile:
0 to 5 inches—gravelly loam
5 to 13 inches—gravelly clay loam
13 to 24 inches—very gravelly clay loam

24 to 41 inches—very gravelly clay
41 to 60 inches—very gravelly clay loam

Characteristics of the Maple Hollow Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 10 inches
Typical profile:
0 to 2 inches—loam
2 to 16 inches—clay loam
16 to 44 inches—clay
44 to 60 inches—loam

Interpretive Groups

Land capability classification: 6e, nonirrigated
Range site: Current Spring—Upland Stony Loam (Wyoming Big Sagebrush); Maple Hollow—Upland Loam (Basin Big Sagebrush)

36—Deseret silt loam, 0 to 1 percent slopes

Setting

Landform: Lake terraces
Slope: 0 to 1 percent
Elevation: 4,600 to 4,800 feet
Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 115 to 130 days

Composition

Major components:
Deseret and similar soils—85 percent

Minor components:
Boxelder silt loam—3 percent
Poganeab loam—2 percent
Playas—2 percent
Uvada clay loam—2 percent
Uffens silt loam—2 percent
Berent loamy fine sand—2 percent
Kanosh very fine sandy loam—2 percent

Characteristics of the Deseret Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Dominant parent material: Alluvium and lacustrine deposits
Depth to apparent water table: 60 to 72 inches
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 8 inches
Typical profile:
0 to 4 inches—silt loam
4 to 24 inches—silt loam
24 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 7s, nonirrigated
Range site: Alkali Flat (Black Greasewood)

37—Donnardo very stony loam, 2 to 15 percent slopes

Setting

Landform: Fan remnants
Slope: 2 to 15 percent
Elevation: 5,000 to 5,700 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Donnardo and similar soils—90 percent

Minor components:
Collard gravelly loam—5 percent
Calita loam—3 percent
Borvant very gravelly loam—2 percent

Characteristics of the Donnardo Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—very stony loam
8 to 24 inches—very gravelly loam
24 to 35 inches—extremely gravelly sandy loam
35 to 60 inches—very cobbly loam

Interpretive Groups

Land capability classification: 6s, nonirrigated
Range site: Upland Stony Loam (Wyoming Big Sagebrush)

38—Donnardo-Borvant-Collard complex, 2 to 5 percent slopes

Setting

Landform: Fan remnants
Slope: 2 to 5 percent
Elevation: 4,800 to 5,500 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 150 days

Composition

Major components:
Donnardo and similar soils—40 percent
Borvant and similar soils—25 percent
Collard and similar soils—25 percent

Minor components:
Jardal very gravelly fine sandy loam—5 percent
Calita loam—5 percent

Characteristics of the Donnardo Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 6 inches
Typical profile:
0 to 11 inches—gravelly fine sandy loam
11 to 21 inches—gravelly fine sandy loam
21 to 60 inches—very cobbly loam

Characteristics of the Borvant Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 1 inch
Typical profile:
0 to 7 inches—very gravelly loam
7 to 14 inches—extremely gravelly loam
14 inches—indurated hardpan

Characteristics of the Collard Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from quartzite, sandstone, and conglomerate
Available water capacity: About 4 inches
Typical profile:
0 to 9 inches—gravelly loam
9 to 17 inches—very cobbly clay loam
17 to 28 inches—very cobbly sandy loam
28 to 60 inches—very cobbly loamy sand

Interpretive Groups

Land capability classification: Donnardo and Collard—6s, nonirrigated; Borvant—7s, nonirrigated
Range site: Donnardo and Collard—Upland Stony Loam (Wyoming Big Sagebrush); Borvant—Upland Shallow Hardpan (Pinyon-Utah Juniper)

39—Donnardo-Kapod complex, 2 to 15 percent slopes

Setting

Landform: Donnardo—alluvial fans; Kapod—fan remnants
Slope: 2 to 15 percent
Elevation: 5,400 to 6,500 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 120 days

Composition

Major components:
Donnardo and similar soils—60 percent
Kapod and similar soils—25 percent

Minor components:
Borvant very gravelly loam—5 percent
Lizzant extremely cobbly loam—5 percent
Calita loam—5 percent

Characteristics of the Donnardo Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—very stony loam
8 to 24 inches—very gravelly loam
24 to 35 inches—extremely gravelly sandy loam
35 to 60 inches—very cobbly loam

Characteristics of the Kapod Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 4 inches—very stony loam
4 to 14 inches—very gravelly clay loam
14 to 20 inches—extremely gravelly clay loam
20 to 30 inches—extremely gravelly sandy loam
30 to 60 inches—extremely gravelly loam

Interpretive Groups

Land capability classification: 6s, nonirrigated
Range site: Upland Stony Loam (Wyoming Big Sagebrush)

40—Dune land

Setting

Landform: Sand dunes
Slope: 2 to 30 percent
Elevation: 4,700 to 5,000 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 130 to 150 days

Composition

Major component:
Dune land—95 percent

Minor component:
Berent loamy fine sand—5 percent

Characteristics of the Dune Land

Description of areas: Sand, on ridges and in troughs, that shifts with the wind

Interpretive Groups

Land capability classification: 8

41—Erda silt loam, 2 to 5 percent slopes

Setting

Landform: Alluvial fans
Slope: 2 to 5 percent
Elevation: 5,500 to 5,900 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Erda and similar soils—85 percent

Minor components:
Borvant very gravelly loam—5 percent
Donnardo very stony loam—5 percent
Hiko Peak fine sandy loam—5 percent

Characteristics of the Erda Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 10 inches
Typical profile:
0 to 6 inches—silt loam
6 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 3e, irrigated, and 4e, nonirrigated

42—Escalante sandy loam, 0 to 2 percent slopes

Setting

Landform: Alluvial flats
Slope: 0 to 2 percent
Elevation: 4,700 to 5,200 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Escalante and similar soils—85 percent

Minor components:
Bandag loam—5 percent
Manassa silt loam—5 percent
Uvada clay loam—3 percent
Berent loamy fine sand—2 percent

Characteristics of the Escalante Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sedimentary rock
Available water capacity: About 7 inches
Typical profile:
0 to 19 inches—sandy loam
19 to 44 inches—fine sandy loam
44 to 46 inches—silt loam
46 to 51 inches—loamy fine sand
51 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 7s, nonirrigated
Range site: Semidesert Sandy Loam (Wyoming Big Sagebrush)

43—Escalante sandy loam, 2 to 5 percent slopes

Setting

Landform: Alluvial flats, lake plains, and lake terraces
Slope: 2 to 5 percent
Elevation: 4,700 to 5,200 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Escalante and similar soils—85 percent

Minor components:
Bandag loam—5 percent
Boxelder silt loam—5 percent
Mellor silt loam—3 percent
Berent loamy fine sand—2 percent

Characteristics of the Escalante Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sedimentary rock
Available water capacity: About 7 inches
Typical profile:
0 to 19 inches—sandy loam
19 to 44 inches—fine sandy loam
44 to 46 inches—silt loam
46 to 51 inches—loamy fine sand
51 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 7s, nonirrigated
Range site: Semidesert Sandy Loam (Wyoming Big Sagebrush)

44—Escalante-Berent-Escalante complex, 2 to 15 percent slopes

Setting

Landform: Escalante—fan remnants; Berent—dunes; Escalante—fan remnants and stream terraces
Slope: Escalante—5 to 15 percent; Berent—2 to 8 percent; Escalante—2 to 5 percent
Elevation: 5,200 to 6,200 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 120 days

Composition

Major components:
Escalante and similar soils—35 percent
Berent and similar soils—30 percent
Escalante and similar soils—20 percent

Minor components:
Pober gravelly loam—5 percent
Pavant loam—5 percent
Hiko Peak gravelly loam—5 percent

Characteristics of the Escalante Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sedimentary rock
Available water capacity: About 5 inches
Typical profile:
0 to 10 inches—very gravelly sandy loam
10 to 27 inches—gravelly sandy loam
27 to 60 inches—sandy loam

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—loamy fine sand
8 to 60 inches—fine sand

Characteristics of the Escalante Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sedimentary rock
Available water capacity: About 6 inches
Typical profile:
0 to 14 inches—fine sandy loam
14 to 44 inches—fine sandy loam
44 to 60 inches—gravelly sandy loam

Interpretive Groups

Land capability classification: Escalante—7e, nonirrigated; Berent—7s, nonirrigated; Escalante—6e, nonirrigated
Range site: Escalante—Semidesert Gravelly Loam (Wyoming Big Sagebrush) North; Berent—

Semidesert Sand (Fourwing Saltbush); Escalante—Semidesert Sandy Loam (Wyoming Big Sagebrush)

45—Firmage loam, 2 to 8 percent slopes

Setting

Landform: Alluvial fans and fan remnants
Slope: 2 to 8 percent
Elevation: 4,900 to 5,200 feet
Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Firmage and similar soils—85 percent

Minor components:
Oakcity loam—5 percent
Boxelder silt loam—5 percent
Hiko Peak fine sandy loam—5 percent

Characteristics of the Firmage Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and conglomerate
Available water capacity: About 8 inches
Typical profile:
0 to 3 inches—loam
3 to 16 inches—clay loam
16 to 25 inches—cobbly loam
25 to 43 inches—stony loam
43 to 60 inches—very cobbly sandy clay loam

Interpretive Groups

Land capability classification: 6e, nonirrigated
Range site: Semidesert Loam (Basin Big Sagebrush)

46—Firmage-Hiko Peak complex, 2 to 15 percent slopes

Setting

Landform: Firmage—alluvial fans and fan remnants; Hiko Peak—fan remnants
Slope: Firmage—2 to 8 percent; Hiko Peak—5 to 15 percent
Elevation: 5,100 to 5,600 feet
Mean annual air temperature: 45 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 110 to 140 days

Composition

Major components:
Firmage and similar soils—65 percent
Hiko Peak and similar soils—20 percent

Minor components:
Checkett very stony loam—5 percent
Boxelder silt loam—5 percent
Heist fine sandy loam—5 percent

Characteristics of the Firmage Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and conglomerate
Available water capacity: About 8 inches
Typical profile:
0 to 3 inches—loam
3 to 16 inches—clay loam
16 to 25 inches—cobbly loam
25 to 43 inches—stony loam
43 to 60 inches—very cobbly sandy clay loam

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from quartzite, sandstone, and conglomerate
Available water capacity: About 5 inches
Typical profile:
0 to 9 inches—stony fine sandy loam
9 to 49 inches—very gravelly sandy loam
49 to 60 inches—very gravelly sandy loam

Interpretive Groups

Land capability classification: Firmage—6e, nonirrigated; Hiko Peak—7e, nonirrigated
Range site: Firmage—Semidesert Loam (Basin Big Sagebrush); Hiko Peak—Semidesert Gravelly Loam (Wyoming Big Sagebrush) North

47—Freedom silt loam, 0 to 2 percent slopes

Setting

Landform: Alluvial flats and lake terraces
Slope: 0 to 2 percent
Elevation: 4,800 to 5,600 feet

Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 150 days

Composition

Major components:
Freedom and similar soils—85 percent

Minor components:
Beckstrand loam—5 percent
Scipio loam—5 percent
Boxelder silt loam—5 percent

Characteristics of the Freedom Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 11 inches
Typical profile:
  0 to 12 inches—silt loam
  12 to 26 inches—silt loam
  26 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

48—Freedom silt loam, 2 to 5 percent slopes

Setting

Landform: Alluvial flats, fan remnants, and lake terraces
Slope: 2 to 5 percent
Elevation: 4,800 to 5,600 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 100 to 150 days

Composition

Major components:
Freedom and similar soils—85 percent

Minor components:
Beckstrand loam—5 percent
Scipio loam—5 percent
Boxelder silt loam—5 percent

Characteristics of the Freedom Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 11 inches
Typical profile:
  0 to 12 inches—silt loam
  12 to 26 inches—silt loam
  26 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 3e, irrigated, and 6e, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

49—Genola silt loam, 0 to 2 percent slopes

Setting

Landform: Terraces and alluvial flats
Slope: 0 to 2 percent
Elevation: 4,700 to 5,100 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Genola and similar soils—90 percent

Minor components:
Poganeab loam—2 percent
Green River loam—2 percent
Oakcity loam—2 percent
Bandag loam—2 percent
Woodrow silty clay loam—2 percent

Characteristics of the Genola Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and shale
Available water capacity: About 10 inches

Typical profile:
0 to 11 inches—silt loam
11 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

50—Genola silt loam, 2 to 5 percent slopes

Setting

Landform: Alluvial fans
Slope: 2 to 5 percent
Elevation: 4,700 to 5,100 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Genola and similar soils—90 percent

Minor components:
Poganeab loam—2 percent
Green River loam—2 percent
Oakcity loam—2 percent
Bandag loam—2 percent
Woodrow silty clay loam—2 percent

Characteristics of the Genola Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and shale
Available water capacity: About 10 inches
Typical profile:
0 to 11 inches—silt loam
11 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 3e, irrigated, and 6e, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

51—Green River-Poganeab complex, 0 to 3 percent slopes

Setting

Landform: Green River—flood plains; Poganeab—flood plains and oxbows
Slope: Green River—0 to 2 percent; Poganeab—0 to 3 percent
Elevation: 4,700 to 4,800 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 7 to 12 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Green River and similar soils—60 percent
Poganeab and similar soils—25 percent

Minor components:
Kudlac silt loam—5 percent
Mellor silt loam—5 percent
Jigsaw silt loam—5 percent

Characteristics of the Green River Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Moderately well drained
Dominant parent material: Alluvium derived from sandstone, quartzite, and limestone
Frequency of flooding: Occasional
Depth to apparent water table: 36 to 48 inches
Salinity: Saline within a depth of 30 inches
Available water capacity: About 7 inches
Typical profile:
0 to 3 inches—loam
3 to 9 inches—silt loam
9 to 60 inches—sandy loam

Characteristics of the Poganeab Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Poorly drained
Dominant parent material: Alluvium derived from sandstone, limestone, and quartzite
Frequency of flooding: Occasional
Depth to apparent water table: 6 to 20 inches
Salinity: Saline within a depth of 30 inches
Available water capacity: About 10 inches

Typical profile:
0 to 9 inches—loam
9 to 48 inches—silty clay loam
48 to 60 inches—sandy loam

Interpretive Groups

Land capability classification: 6w, nonirrigated
Range site: Wet Saline Meadow

52—Heist fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Alluvial fans
Slope: 0 to 2 percent
Elevation: 4,700 to 5,100 feet
Mean annual air temperature: 46 to 51 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Heist and similar soils—85 percent

Minor components:
Boxelder silt loam—5 percent
Hiko Peak fine sandy loam—5 percent
Oakcity loam—5 percent

Characteristics of the Heist Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 7 inches
Typical profile:
0 to 14 inches—fine sandy loam
14 to 60 inches—fine sandy loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 7c, nonirrigated
Range site: Semidesert Sandy Loam (Wyoming Big Sagebrush)

53—Heist fine sandy loam, 2 to 5 percent slopes

Setting

Landform: Alluvial fans
Slope: 2 to 5 percent
Elevation: 4,800 to 5,200 feet
Mean annual air temperature: 46 to 51 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Heist and similar soils—85 percent

Minor components:
Hiko Peak fine sandy loam—10 percent
Boxelder silt loam—3 percent
Bandag loam—2 percent

Characteristics of the Heist Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 7 inches
Typical profile:
0 to 14 inches—fine sandy loam
14 to 60 inches—fine sandy loam

Interpretive Groups

Land capability classification: 3e, irrigated, and 7e, nonirrigated
Range site: Semidesert Sandy Loam (Wyoming Big Sagebrush)

54—Heist-Berent complex, 0 to 15 percent slopes

Setting

Landform: Heist—alluvial fans and lake terraces; Berent—dunes
Slope: Heist—0 to 8 percent; Berent—8 to 15 percent
Elevation: 4,700 to 5,100 feet
Mean annual air temperature: 46 to 51 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 130 to 150 days

Composition

Major components:
Heist and similar soils—45 percent
Berent and similar soils—40 percent

Minor components:
Dune land—10 percent
Boxelder silt loam—5 percent

Characteristics of the Heist Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite

Available water capacity: About 6 inches
Typical profile:
0 to 23 inches—fine sandy loam
23 to 47 inches—fine sandy loam
47 to 57 inches—very gravelly sandy loam
57 to 60 inches—sandy loam

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—loamy fine sand
8 to 60 inches—fine sand

Interpretive Groups

Land capability classification: Heist—3e, irrigated, and 7e, nonirrigated; Berent—4s, irrigated, and 7s, nonirrigated
Range site: Heist—Semidesert Sandy Loam (Wyoming Big Sagebrush); Berent—Semidesert Sand (Fourwing Saltbush)

55—Heist-Linoyer complex, 0 to 8 percent slopes

Setting

Landform: Heist—alluvial fans and lake terraces; Linoyer—lake terraces
Slope: Heist—0 to 8 percent; Linoyer—0 to 2 percent
Elevation: 4,700 to 5,000 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Heist and similar soils—45 percent
Linoyer and similar soils—40 percent

Minor components:
Berent loamy fine sand—5 percent
Boxelder silt loam—5 percent
Manassa silt loam—5 percent

Characteristics of the Heist Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 6 inches
Typical profile:
0 to 23 inches—fine sandy loam
23 to 47 inches—fine sandy loam
47 to 57 inches—very gravelly sandy loam
57 to 60 inches—sandy loam

Characteristics of the Linoyer Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Available water capacity: About 10 inches
Typical profile:
0 to 9 inches—loam
9 to 60 inches—silt loam

Interpretive Groups

Land capability classification: Heist—3e, irrigated, and 7e, nonirrigated; Linoyer—2c, irrigated, and 6c, nonirrigated
Range site: Heist—Semidesert Sandy Loam (Wyoming Big Sagebrush); Linoyer—Semidesert Loam (Wyoming Big Sagebrush)

56—Hiko Peak extremely stony loam, 4 to 15 percent slopes

Setting

Landform: Fan remnants
Slope: 4 to 15 percent
Elevation: 6,200 to 6,500 feet
Mean annual air temperature: 45 to 48 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 120 days

Composition

Major components:
Hiko Peak and similar soils—85 percent

Minor components:
Checkett very stony loam—5 percent
Borvant very gravelly loam—5 percent
Escalante sandy loam—5 percent

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from quartzite, sandstone, and conglomerate
Available water capacity: About 4 inches
Typical profile:
0 to 10 inches—extremely stony loam
10 to 22 inches—extremely cobbly loam

22 to 40 inches—extremely cobbly sandy loam
40 to 60 inches—extremely cobbly loam

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Semidesert Stony Loam (Black Sagebrush)

57—Hiko Peak fine sandy loam, 2 to 8 percent slopes

Setting

Landform: Alluvial fans
Slope: 2 to 8 percent
Elevation: 4,800 to 5,200 feet
Mean annual air temperature: 48 to 51 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Hiko Peak and similar soils—85 percent

Minor components:
Boxelder silt loam—10 percent
Amtoft gravelly loam—5 percent

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, conglomerate, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 3 inches—fine sandy loam
3 to 16 inches—gravelly loam
16 to 43 inches—extremely gravelly sandy loam
43 to 49 inches—extremely gravelly loamy sand
49 to 60 inches—very gravelly sand

Interpretive Groups

Land capability classification: 6e, nonirrigated
Range site: Semidesert Gravelly Loam (Wyoming Big Sagebrush) North

58—Hiko Peak gravelly loam, 2 to 15 percent slopes

Setting

Landform: Fan remnants
Slope: 2 to 15 percent
Elevation: 6,200 to 6,400 feet
Mean annual air temperature: 45 to 51 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Hiko Peak and similar soils—85 percent

Minor components:
Checkett very stony loam—5 percent
Donnardo very stony loam—5 percent
Berent loamy fine sand—5 percent

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 5 inches
Typical profile:
0 to 13 inches—gravelly loam
13 to 27 inches—very gravelly loam
27 to 37 inches—extremely gravelly loam
37 to 60 inches—very gravelly fine sandy loam

Interpretive Groups

Land capability classification: 6e, nonirrigated
Range site: Semidesert Gravelly Loam (Wyoming Big Sagebrush) North

59—Hiko Peak gravelly loam, 20 to 50 percent slopes

Setting

Landform: Hillslopes
Slope: 20 to 50 percent
Elevation: 5,200 to 5,600 feet
Mean annual air temperature: 47 to 51 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Hiko Peak and similar soils—85 percent

Minor components:
Lodar extremely stony loam—5 percent
Jardal very gravelly fine sandy loam—5 percent
Heist fine sandy loam—5 percent

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone, conglomerate, and quartzite
Available water capacity: About 6 inches
Typical profile:
0 to 13 inches—gravelly loam
13 to 20 inches—very cobbly loam
20 to 30 inches—very gravelly loam
30 to 60 inches—very gravelly sandy loam

Interpretive Groups

Land capability classification: 7e, nonirrigated
Range site: Semidesert Gravelly Loam (Wyoming Big Sagebrush) North

60—Hiko Peak stony fine sandy loam, 5 to 15 percent slopes

Setting

Landform: Hillslopes and fan remnants
Slope: 5 to 15 percent
Elevation: 4,800 to 5,300 feet
Mean annual air temperature: 45 to 51 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Hiko Peak and similar soils—85 percent

Minor components:
Amtoft gravelly loam—5 percent
Boxelder silt loam—5 percent
Heist fine sandy loam—5 percent

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 9 inches—stony fine sandy loam
9 to 49 inches—very gravelly sandy loam
49 to 60 inches—very gravelly sandy loam

Interpretive Groups

Land capability classification: 7e, nonirrigated
Range site: Semidesert Gravelly Loam (Wyoming Big Sagebrush) North

61—Hiko Peak-Amtoft complex, 8 to 35 percent slopes

Setting

Landform: Hills
Position on landform: Hiko Peak—hillslopes; Amtoft—shoulders and summits
Slope: Hiko Peak—8 to 25 percent; Amtoft—8 to 35 percent
Elevation: 5,100 to 5,600 feet
Mean annual air temperature: 45 to 51 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Hiko Peak and similar soils—50 percent
Amtoft and similar soils—40 percent

Minor components:
Borvant very gravelly loam—5 percent
Pavant loam—3 percent
Rock outcrop—2 percent

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone and sandstone
Available water capacity: About 5 inches
Typical profile:
0 to 9 inches—stony fine sandy loam
9 to 60 inches—very gravelly sandy loam

Characteristics of the Amtoft Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone, sandstone, and conglomerate
Available water capacity: About 2 inches
Typical profile:
0 to 8 inches—gravelly loam

8 to 19 inches—very cobbly loam
19 inches—unweathered bedrock

Interpretive Groups

Land capability classification: Hiko Peak—7e, nonirrigated; Amtoft—7s, nonirrigated
Range site: Hiko Peak—Semidesert Gravelly Loam (Wyoming Big Sagebrush) North; Amtoft—Semidesert Shallow Loam (Utah Juniper-Bluebunch Wheatgrass)

62—Hiko Peak-Heist association, 2 to 15 percent slopes

Setting

Landform: Hiko Peak—hillslopes and fan remnants; Heist—alluvial fans and lake terraces
Slope: Hiko Peak—2 to 15 percent; Heist—2 to 8 percent
Elevation: 4,800 to 5,200 feet
Mean annual air temperature: 48 to 51 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Hiko Peak and similar soils—50 percent
Heist and similar soils—35 percent

Minor components:
Hiko Peak extremely stony loam—5 percent
Mellor silt loam—5 percent
Oakcity loam—5 percent

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 6 inches
Typical profile:
0 to 13 inches—gravelly loam
13 to 20 inches—very cobbly loam
20 to 30 inches—very gravelly loam
30 to 60 inches—very gravelly sandy loam

Characteristics of the Heist Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 6 inches
Typical profile:
0 to 4 inches—fine sandy loam
4 to 36 inches—fine sandy loam
36 to 60 inches—gravelly fine sandy loam

Interpretive Groups

Land capability classification: 7e, nonirrigated
Range site: Hiko Peak—Semidesert Gravelly Loam (Wyoming Big Sagebrush) North; Heist—Semidesert Sandy Loam (Wyoming Big Sagebrush)

63—Hiko Peak-Heist complex, 0 to 2 percent slopes

Setting

Landform: Hiko Peak—alluvial fans and fan remnants; Heist—alluvial fans
Slope: 0 to 2 percent
Elevation: 4,700 to 5,000 feet
Mean annual air temperature: 48 to 51 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 130 to 150 days

Composition

Major components:
Hiko Peak and similar soils—45 percent
Heist and similar soils—40 percent

Minor components:
Berent loamy fine sand—10 percent
Oakcity loam—5 percent

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 3 inches—fine sandy loam
3 to 16 inches—gravelly loam
16 to 43 inches—extremely gravelly sandy loam
43 to 49 inches—extremely gravelly loamy sand
49 to 60 inches—very gravelly sand

Characteristics of the Heist Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 7 inches

Typical profile:
0 to 14 inches—fine sandy loam
14 to 60 inches—fine sandy loam

Interpretive Groups

Land capability classification: Hiko Peak—2e, irrigated, and 7c, nonirrigated; Heist—2c, irrigated, and 7c, nonirrigated
Range site: Hiko Peak—Semidesert Gravelly Loam (Wyoming Big Sagebrush) North; Heist—Semidesert Sandy Loam (Wyoming Big Sagebrush)

64—Hiko Peak-Heist complex, 2 to 8 percent slopes

Setting

Landform: Hiko Peak—alluvial fans and fan remnants; Heist—alluvial fans
Slope: Hiko Peak—2 to 8 percent; Heist—2 to 5 percent
Elevation: 4,700 to 5,500 feet
Mean annual air temperature: 48 to 51 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 130 to 150 days

Composition

Major components:
Hiko Peak and similar soils—50 percent
Heist and similar soils—30 percent

Minor components:
Berent loamy fine sand—10 percent
Oakcity loam—5 percent
Donnardo very stony loam—5 percent

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 3 inches—fine sandy loam
3 to 16 inches—gravelly loam
16 to 43 inches—extremely gravelly sandy loam
43 to 49 inches—extremely gravelly loamy sand
49 to 60 inches—very gravelly sand

Characteristics of the Heist Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 7 inches
Typical profile:
0 to 14 inches—fine sandy loam
14 to 60 inches—fine sandy loam

Interpretive Groups

Land capability classification: 3e, irrigated, and 7e, nonirrigated
Range site: Hiko Peak—Semidesert Gravelly Loam (Wyoming Big Sagebrush) North; Heist—Semidesert Sandy Loam (Wyoming Big Sagebrush)

65—Hiko Peak-Pibler complex, 2 to 15 percent slopes

Setting

Landform: Alluvial fans and fan remnants
Slope: 2 to 15 percent
Elevation: 5,200 to 5,600 feet
Mean annual air temperature: 46 to 51 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Hiko Peak and similar soils—50 percent
Pibler and similar soils—35 percent

Minor components:
Freedom silt loam—5 percent
Escalante sandy loam—5 percent
Calita very fine sandy loam—5 percent

Characteristics of the Hiko Peak Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 4 inches—gravelly loam
4 to 8 inches—very gravelly loam
8 to 60 inches—very gravelly sandy loam

Characteristics of the Pibler Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite

Available water capacity: About 1 inch
Typical profile:
0 to 7 inches—gravelly fine sandy loam
7 to 12 inches—very gravelly loam
12 inches—indurated hardpan

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Hiko Peak—Semidesert Gravelly Loam (Wyoming Big Sagebrush) North; Pibler—Semidesert Shallow Hardpan (8-10 Ppt)

66—Jardal-Donnardo complex, 2 to 15 percent slopes

Setting

Landform: Jardal—fan remnants; Donnardo—alluvial fans and fan remnants
Slope: Jardal—5 to 15 percent; Donnardo—2 to 15 percent
Elevation: 5,500 to 5,600 feet
Mean annual air temperature: 46 to 49 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 130 days

Composition

Major components:
Jardal and similar soils—45 percent
Donnardo and similar soils—40 percent

Minor components:
Maple Hollow loam—10 percent
Sonlet extremely stony loam—5 percent

Characteristics of the Jardal Soil

Depth class: Moderately deep (20 to 40 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sandstone, limestone, and conglomerate
Available water capacity: About 2 inches
Typical profile:
0 to 4 inches—gravelly very fine sandy loam
4 to 9 inches—very gravelly very fine sandy loam
9 to 26 inches—extremely gravelly very fine sandy loam
26 to 30 inches—indurated hardpan

Characteristics of the Donnardo Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone and sandstone
Available water capacity: About 6 inches
Typical profile:
0 to 11 inches—gravelly fine sandy loam
11 to 21 inches—gravelly fine sandy loam
21 to 60 inches—very cobbly loam

Interpretive Groups

Land capability classification: Jardal—7e, nonirrigated; Donnardo—6s, nonirrigated
Range site: Upland Stony Loam (Wyoming Big Sagebrush)

67—Jigsaw silt loam, 2 to 5 percent slopes

Setting

Landform: Alluvial fans, lake plains, and lake terraces
Slope: 2 to 5 percent
Elevation: 4,700 to 5,300 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Jigsaw and similar soils—85 percent

Minor components:
Calita loam—10 percent
Berent loamy fine sand—5 percent

Characteristics of the Jigsaw Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sedimentary rock
Available water capacity: About 11 inches
Typical profile:
0 to 9 inches—silt loam
9 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 3e, irrigated, and 6e, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

68—Jigsaw-Oakcity complex, 0 to 2 percent slopes

Setting

Landform: Lake plains and lake terraces
Slope: 0 to 2 percent
Elevation: 4,700 to 5,200 feet

Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Jigsaw and similar soils—45 percent
Oakcity and similar soils—40 percent

Minor components:
Dune land—5 percent
Mellor silt loam—5 percent
Kanosh very fine sandy loam—3 percent
Deseret silt loam—2 percent

Characteristics of the Jigsaw Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sedimentary rock
Available water capacity: About 11 inches
Typical profile:
0 to 9 inches—silt loam
9 to 60 inches—silty clay loam

Characteristics of the Oakcity Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Available water capacity: About 9 inches
Typical profile:
0 to 5 inches—loam
5 to 10 inches—clay loam
10 to 15 inches—silty clay loam
15 to 60 inches—silty clay

Interpretive Groups

Land capability classification: Jigsaw—2c, irrigated, and 6c, nonirrigated; Oakcity—3s, irrigated, and 6s, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

69—Kanosh very fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Low lake terraces
Slope: 0 to 2 percent
Elevation: 4,600 to 4,800 feet
Mean annual air temperature: 49 to 54 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Kanosh and similar soils—90 percent

Minor components:
Playas—2 percent
Mellor silt loam—2 percent
Ashdown loam—2 percent
Berent loamy fine sand—2 percent
Bandag loam—1 percent
Benstot loam—1 percent

Characteristics of the Kanosh Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from limestone and sandstone
Depth to apparent water table: 20 to 40 inches
Salinity: Saline within a depth of 30 inches
Available water capacity: About 4 inches
Typical profile:
0 to 4 inches—very fine sandy loam
4 to 60 inches—fine sandy loam

Interpretive Groups

Land capability classification: 7w, nonirrigated
Range site: Desert Salty Silt (Pickleweed)

70—Kapod very stony loam, 2 to 15 percent slopes

Setting

Landform: Fan remnants
Slope: 2 to 15 percent
Elevation: 5,500 to 6,100 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Kapod and similar soils—85 percent

Minor components:
Collard extremely stony silt loam—10 percent
Lodar extremely stony loam—5 percent

Characteristics of the Kapod Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained

Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 4 inches—very stony loam
4 to 14 inches—very gravelly clay loam
14 to 20 inches—extremely gravelly clay loam
20 to 30 inches—extremely gravelly sandy loam
30 to 60 inches—extremely gravelly loam

Interpretive Groups

Land capability classification: 6s, nonirrigated
Range site: Upland Stony Loam (Wyoming Big Sagebrush)

71—Kapod-Collard complex, 2 to 15 percent slopes

Setting

Landform: Kapod—fan remnants; Collard—alluvial fans and fan remnants
Slope: 2 to 15 percent
Elevation: 5,200 to 6,200 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Kapod and similar soils—60 percent
Collard and similar soils—30 percent

Minor component:
Spager gravelly fine sandy loam—10 percent

Characteristics of the Kapod Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 4 inches—very stony loam
4 to 14 inches—very gravelly clay loam
14 to 20 inches—extremely gravelly clay loam
20 to 30 inches—extremely gravelly sandy loam
30 to 60 inches—extremely gravelly loam

Characteristics of the Collard Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—extremely stony silt loam
8 to 47 inches—very gravelly sandy clay loam
47 to 60 inches—extremely stony sandy loam

Interpretive Groups

Land capability classification: Kapod—6s, nonirrigated; Collard—7s, nonirrigated
Range site: Upland Stony Loam (Wyoming Big Sagebrush)

72—Kapod-Rock outcrop complex, 30 to 50 percent slopes

Setting

Landform: Mountains
Position on landform: Kapod—side slopes; Rock outcrop—shoulders and summits
Slope: 30 to 50 percent
Elevation: 5,200 to 6,400 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Kapod and similar soils—65 percent
Rock outcrop—20 percent

Minor components:
Bentaxle gravelly loam—5 percent
Spager gravelly very fine sandy loam—5 percent
Collard gravelly loam—5 percent

Characteristics of the Kapod Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone, conglomerate, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 4 inches—very stony loam
4 to 14 inches—very gravelly clay loam
14 to 20 inches—extremely gravelly clay loam
20 to 30 inches—extremely gravelly sandy loam
30 to 60 inches—extremely gravelly loam

Characteristics of the Rock Outcrop

Description of areas: Exposures of barren bedrock

Interpretive Groups

Land capability classification: Kapod—7s, nonirrigated; Rock outcrop—8

Range site: Kapod—Upland Stony Loam (Wyoming Big Sagebrush); Rock outcrop—not assigned

73—Kessler silt loam, 0 to 2 percent slopes

Setting

Landform: Lake terraces
Slope: 0 to 2 percent
Elevation: 5,200 to 5,350 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 100 to 130 days

Composition

Major components:
Kessler and similar soils—85 percent

Minor components:
Calita very fine sandy loam—10 percent
Freedom silt loam—5 percent

Characteristics of the Kessler Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Available water capacity: About 10 inches
Typical profile:
0 to 15 inches—silt loam
15 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

74—Kessler silt loam, 2 to 8 percent slopes

Setting

Landform: Alluvial fans, lake plains, and lake terraces
Slope: 2 to 8 percent
Elevation: 4,800 to 5,250 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Kessler and similar soils—85 percent

Minor components:
Lava flows—10 percent
Shotwell very cobbly loam—5 percent

Characteristics of the Kessler Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Available water capacity: About 10 inches
Typical profile:
0 to 15 inches—silt loam
15 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 6e, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

75—Kessler-Linoyer complex, 0 to 2 percent slopes

Setting

Landform: Lake terraces
Slope: 0 to 2 percent
Elevation: 5,000 to 5,200 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 130 days

Composition

Major components:
Kessler and similar soils—50 percent
Linoyer and similar soils—40 percent

Minor component:
Freedom silt loam—10 percent

Characteristics of the Kessler Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Available water capacity: About 10 inches
Typical profile:
0 to 15 inches—silt loam
15 to 60 inches—silt loam

Characteristics of the Linoyer Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits

Available water capacity: About 10 inches
Typical profile:
0 to 9 inches—loam
9 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

76—Kidman-Preston complex, 2 to 30 percent slopes

Setting

Landform: Kidman—fan remnants; Preston—dunes
Slope: Kidman—15 to 30 percent; Preston—2 to 30 percent
Elevation: 5,200 to 6,200 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Kidman and similar soils—55 percent
Preston and similar soils—30 percent

Minor components:
Pober gravelly loam—5 percent
Pavant loam—5 percent
Donnardo very stony loam—5 percent

Characteristics of the Kidman Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 8 inches
Typical profile:
0 to 7 inches—fine sandy loam
7 to 34 inches—silt loam
34 to 60 inches—sandy loam

Characteristics of the Preston Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
0 to 18 inches—fine sand
18 to 60 inches—loamy fine sand

Interpretive Groups

Land capability classification: Kidman—6e, nonirrigated; Preston—6s, nonirrigated
Range site: Kidman—Upland Loam (Basin Big Sagebrush); Preston—Upland Sand (Indian Ricegrass)

77—Kitchell gravelly loam, 40 to 70 percent slopes

Setting

Landform: North-facing mountain slopes
Slope: 40 to 70 percent
Elevation: 7,400 to 7,800 feet
Mean annual air temperature: 40 to 43 degrees F
Mean annual precipitation: 20 to 22 inches
Frost-free period: 60 to 90 days

Composition

Major components:
Kitchell and similar soils—85 percent

Minor components:
Lonjon stony loam—10 percent
Lizzant extremely cobbly loam—5 percent

Characteristics of the Kitchell Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium derived from limestone and sandstone
Available water capacity: About 6 inches
Typical profile:
0 to 14 inches—gravelly loam
14 to 22 inches—extremely cobbly loam
22 to 60 inches—extremely stony loam

Interpretive Groups

Land capability classification: 7e, nonirrigated
Range site: Mountain Gravelly Loam (Douglas Fir)

78—Kudlac silt loam, 15 to 50 percent slopes

Setting

Landform: Stream terraces, risers, and breaks
Slope: 15 to 50 percent
Elevation: 4,700 to 4,900 feet
Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 110 to 140 days

Composition

Major components:
Kudlac and similar soils—75 percent

Minor components:
Mellor silt loam—10 percent
Berent loamy fine sand—5 percent
Hiko Peak gravelly loam—5 percent
Uffens silt loam—5 percent

Characteristics of the Kudlac Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Available water capacity: About 10 inches
Typical profile:
0 to 3 inches—silt loam
3 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 7e, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

79—Larwood-Berent complex, 0 to 8 percent slopes

Setting

Landform: Larwood—lake plains; Berent—dunes
Slope: Larwood—0 to 2 percent; Berent—2 to 8 percent
Elevation: 4,700 to 4,800 feet
Mean annual air temperature: 48 to 51 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Larwood and similar soils—50 percent
Berent and similar soils—30 percent

Minor components:
Heist fine sandy loam—10 percent
Oakcity loam—5 percent
Uvada clay loam—5 percent

Characteristics of the Larwood Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Available water capacity: About 10 inches
Typical profile:
0 to 4 inches—fine sandy loam
4 to 12 inches—loam
12 to 19 inches—silt loam
19 to 39 inches—silty clay loam
39 to 45 inches—silt loam
45 to 60 inches—very fine sandy loam

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—loamy fine sand
8 to 60 inches—fine sand

Interpretive Groups

Land capability classification: Larwood—6c, nonirrigated; Berent—7s, nonirrigated
Range site: Larwood—Semidesert Alkali Sandy Loam (Alkali Sacaton); Berent—Semidesert Sand (Fourwing Saltbush)

80—Lava flows-Berent complex, 0 to 10 percent slopes

Setting

Landform: Lava flows—Quaternary lava flows; Berent—dunes
Slope: Lava flows—0 to 10 percent; Berent—2 to 8 percent
Elevation: 4,600 to 4,750 feet
Mean annual air temperature: 48 to 51 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Lava flows—45 percent
Berent and similar soils—40 percent

Minor components:
Shotwell very cobbly loam—5 percent
Berent loamy fine sand—5 percent
Dune land—5 percent

Characteristics of the Lava Flows

Description: Areas that are covered with lava and are nearly devoid of plants

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained

Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—loamy fine sand
8 to 60 inches—fine sand

Interpretive Groups

Land capability classification: Lava flows—8; Berent—7s, nonirrigated
Range site: Lava flows—not assigned; Berent—Semidesert Sand (Fourwing Saltbush)

81—Lava flows-Shotwell complex, 0 to 8 percent slopes

Setting

Landform: Quaternary lava flows
Slope: Lava flows—0 to 8 percent; Shotwell—2 to 5 percent
Elevation: 4,600 to 5,000 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Lava flows—60 percent
Shotwell and similar soils—25 percent

Minor components:
Boxelder silt loam—5 percent
Cloyd gravelly loam—5 percent
Kessler silt loam—5 percent

Characteristics of the Lava Flows

Description: Areas that are covered with lava and are nearly devoid of plants

Characteristics of the Shotwell Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Residuum derived from basalt and cinders
Available water capacity: About 1 inch
Typical profile:
0 to 3 inches—very cobbly loam
3 to 14 inches—loam
14 inches—unweathered bedrock

Interpretive Groups

Land capability classification: Lava flows—8; Shotwell—7s, nonirrigated
Range site: Lava flows—not assigned; Shotwell—Semidesert Shallow Loam (Wyoming Big Sagebrush)

82—Linoyer loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Slope: 0 to 2 percent
Elevation: 4,700 to 4,900 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 10 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Linoyer and similar soils—85 percent

Minor components:
Oakcity loam—10 percent
Heist fine sandy loam—5 percent

Characteristics of the Linoyer Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Available water capacity: About 10 inches
Typical profile:
0 to 9 inches—loam
9 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

83—Linoyer very fine sandy loam, 2 to 5 percent slopes

Setting

Landform: Lake plains
Slope: 2 to 5 percent
Elevation: 4,700 to 4,900 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 10 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Linoyer and similar soils—85 percent

Minor components:
Oakcity loam—5 percent
Berent loamy fine sand—5 percent
Dune land—5 percent

Characteristics of the Linoyer Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Available water capacity: About 10 inches
Typical profile:
0 to 9 inches—very fine sandy loam
9 to 60 inches—very fine sandy loam

Interpretive Groups

Land capability classification: 3e, irrigated, and 6e, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

84—Lizzant extremely cobbly loam, 30 to 60 percent slopes

Setting

Landform: Mountain slopes
Slope: 30 to 60 percent
Elevation: 6,800 to 7,800 feet
Mean annual air temperature: 40 to 43 degrees F
Mean annual precipitation: 18 to 20 inches
Frost-free period: 60 to 90 days

Composition

Major components:
Lizzant and similar soils—85 percent

Minor components:
Lodar extremely stony loam—10 percent
Rock outcrop—5 percent

Characteristics of the Lizzant Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone and sandstone
Available water capacity: About 5 inches
Typical profile:
0 to 10 inches—extremely cobbly loam
10 to 21 inches—gravelly loam
21 to 31 inches—very cobbly loam
31 to 60 inches—extremely stony loam

Interpretive Groups

Land capability classification: 7e, nonirrigated
Range site: Mountain Gravelly Loam (Oak)

85—Lodar extremely stony loam, 20 to 50 percent slopes

Setting

Landform: Mountain slopes
Slope: 20 to 50 percent
Elevation: 6,000 to 6,500 feet
Mean annual air temperature: 45 to 50 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 90 to 100 days

Composition

Major components:
Lodar and similar soils—90 percent

Minor components:
Lizzant extremely cobbly loam—5 percent
Rock outcrop—5 percent

Characteristics of the Lodar Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone and sandstone
Available water capacity: About 2 inches
Typical profile:
0 to 3 inches—extremely stony loam
3 to 17 inches—very gravelly loam
17 inches—unweathered bedrock

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Upland Shallow Loam (Pinyon-Utah Juniper)

86—Lodar-Kidman complex, 15 to 50 percent slopes

Setting

Landform: Lodar—mountain slopes; Kidman—fan remnants
Position on landform: Backslopes and footslopes
Slope: Lodar—20 to 50 percent; Kidman—15 to 30 percent
Elevation: 5,600 to 6,500 feet
Mean annual air temperature: 45 to 52 degrees F

Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 130 days

Composition

Major components:
Lodar and similar soils—55 percent
Kidman and similar soils—35 percent

Minor components:
Spager gravelly very fine sandy loam—5 percent
Rock outcrop—5 percent

Characteristics of the Lodar Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone and sandstone
Available water capacity: About 2 inches
Typical profile:
0 to 3 inches—extremely stony loam
3 to 17 inches—very gravelly loam
17 inches—unweathered bedrock

Characteristics of the Kidman Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 8 inches
Typical profile:
0 to 7 inches—fine sandy loam
7 to 34 inches—silt loam
34 to 60 inches—sandy loam

Interpretive Groups

Land capability classification: Lodar—7s, nonirrigated; Kidman—6e, nonirrigated
Range site: Lodar—Upland Shallow Loam (Pinyon-Utah Juniper); Kidman—Upland Loam (Basin Big Sagebrush)

87—Lodar-Rock outcrop complex, 50 to 70 percent slopes

Setting

Landform: Lodar—hills and mountains; Rock outcrop—mountains
Position on landform: Lodar—side slopes; Rock outcrop—shoulders and summits
Slope: 50 to 70 percent
Elevation: 5,800 to 6,500 feet
Mean annual air temperature: 45 to 50 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 130 days

Composition

Major components:
Lodar and similar soils—50 percent
Rock outcrop—30 percent

Minor components:
Lizzant extremely cobbly loam—10 percent
Lonjon stony loam—5 percent
Bentaxle gravelly loam—5 percent

Characteristics of the Lodar Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone and sandstone
Available water capacity: About 2 inches
Typical profile:
0 to 3 inches—extremely stony loam
3 to 17 inches—very gravelly loam
17 inches—unweathered bedrock

Characteristics of the Rock Outcrop

Description of areas: Exposures of barren bedrock

Interpretive Groups

Land capability classification: Lodar—7s, nonirrigated; Rock outcrop—8
Range site: Lodar—Upland Shallow Loam (Pinyon-Utah Juniper); Rock outcrop—not assigned

88—Lonjon stony loam, 30 to 60 percent slopes

Setting

Landform: Mountain slopes
Slope: 30 to 60 percent
Elevation: 6,700 to 7,300 feet
Mean annual air temperature: 40 to 44 degrees F
Mean annual precipitation: 14 to 16 inches
Frost-free period: 70 to 90 days

Composition

Major components:
Lonjon and similar soils—85 percent

Minor components:
Atepic very stony clay loam—5 percent
Kitchell gravelly loam—5 percent
Rock outcrop—5 percent

Characteristics of the Lonjon Soil

Depth class: Moderately deep (20 to 40 inches)
Drainage class: Well drained
Dominant parent material: Colluvium and residuum derived from limestone and sandstone
Available water capacity: About 3 inches
Typical profile:
0 to 2 inches—stony loam
2 to 6 inches—very stony loam
6 to 24 inches—very gravelly loam
24 to 37 inches—extremely gravelly loam
37 inches—unweathered bedrock

Interpretive Groups

Land capability classification: 7e, nonirrigated
Range site: Upland Stony Loam (Wyoming Big Sagebrush)

89—Manassa silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains and lake terraces
Slope: 0 to 2 percent
Elevation: 4,700 to 5,000 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 110 to 150 days

Composition

Major components:
Manassa and similar soils—90 percent

Minor components:
Oakcity loam—5 percent
Kanosh very fine sandy loam—5 percent

Characteristics of the Manassa Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 5 inches
Typical profile:
0 to 13 inches—silt loam
13 to 27 inches—silt loam
27 to 46 inches—silty clay loam
46 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Alkali Flat (Black Greasewood)

90—Manassa-Mellor silt loams, 0 to 2 percent slopes

Setting

Landform: Alluvial flats, lake plains, and lake terraces
Slope: 0 to 2 percent
Elevation: 4,750 to 6,000 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 100 to 150 days

Composition

Major components:
Manassa and similar soils—50 percent
Mellor and similar soils—40 percent

Minor components:
Oakcity loam—5 percent
Heist fine sandy loam—5 percent

Characteristics of the Manassa Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 5 inches
Typical profile:
0 to 13 inches—silt loam
13 to 27 inches—silt loam
27 to 46 inches—silty clay loam
46 to 60 inches—silt loam

Characteristics of the Mellor Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 5 inches
Typical profile:
0 to 6 inches—silt loam
6 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Alkali Flat (Black Greasewood)

91—Medburn-Berent-Escalante complex, 0 to 8 percent slopes

Setting

Landform: Medburn—lake plains and lake terraces; Berent—dunes; Escalante—alluvial flats, lake plains, and lake terraces
Slope: Medburn and Escalante—0 to 2 percent; Berent—2 to 8 percent
Elevation: 4,700 to 4,900 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Medburn and similar soils—30 percent
Berent and similar soils—30 percent
Escalante and similar soils—30 percent

Minor components:
Mellor silt loam—5 percent
Kessler silt loam—5 percent

Characteristics of the Medburn Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sedimentary rock
Salinity: Saline within a depth of 30 inches
Available water capacity: About 6 inches
Typical profile:
0 to 13 inches—sandy loam
13 to 60 inches—fine sandy loam

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—loamy fine sand
8 to 60 inches—fine sand

Characteristics of the Escalante Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sedimentary rock
Available water capacity: About 7 inches
Typical profile:
0 to 19 inches—sandy loam
19 to 44 inches—fine sandy loam
44 to 46 inches—silt loam
46 to 51 inches—loamy fine sand
51 to 60 inches—silt loam

Interpretive Groups

Land capability classification: Medburn and Berent—4s, irrigated, and 7s, nonirrigated; Escalante—2c, irrigated, and 7s, nonirrigated
Range site: Medburn—Semidesert Alkali Sandy Loam (Alkali Sacaton); Berent—Semidesert Sand (Fourwing Saltbush); Escalante—Semidesert Sandy Loam (Wyoming Big Sagebrush)

92—Memmott silt loam, 0 to 2 percent slopes

Setting

Landform: Closed depressions and alluvial fans
Slope: 0 to 2 percent
Elevation: 5,200 to 5,600 feet
Mean annual air temperature: 46 to 49 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 130 days

Composition

Major components:
Memmott and similar soils—85 percent

Minor components:
Freedom silt loam—5 percent
Oakcity loam—5 percent
Taylorsflat loam—5 percent

Characteristics of the Memmott Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Dominant parent material: Alluvium derived from limestone and sandstone
Depth to apparent water table: 25 to 40 inches
Available water capacity: About 10 inches
Typical profile:
0 to 18 inches—silt loam
18 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 3w, irrigated, and 6w, nonirrigated

93—Musinia silt loam, 0 to 2 percent slopes

Setting

Landform: Terraces and alluvial fans
Slope: 0 to 2 percent
Elevation: 4,800 to 5,700 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Musinia and similar soils—90 percent

Minor components:
Scipio loam—2 percent
Kapod very stony loam—2 percent
Sterling loam—2 percent
Kidman fine sandy loam—2 percent
Calita loam—2 percent

Characteristics of the Musinia Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sandstone, limestone, and conglomerate
Available water capacity: About 10 inches
Typical profile:
0 to 11 inches—silt loam
11 to 36 inches—silt loam
36 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

94—Musinia silt loam, 2 to 5 percent slopes

Setting

Landform: Terraces and alluvial fans
Slope: 2 to 5 percent
Elevation: 5,300 to 5,700 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Musinia and similar soils—90 percent

Minor components:
Scipio loam—3 percent
Sterling loam—3 percent
Kidman fine sandy loam—2 percent
Calita loam—2 percent

Characteristics of the Musinia Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from sandstone, limestone, and conglomerate
Available water capacity: About 10 inches
Typical profile:
0 to 11 inches—silt loam
11 to 36 inches—silt loam
36 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 3e, irrigated, and 6e, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

95—Oakcity loam, 0 to 2 percent slopes

Setting

Landform: Lake plains and lake terraces
Slope: 0 to 2 percent
Elevation: 4,800 to 5,000 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Oakcity and similar soils—85 percent

Minor components:
Berent loamy fine sand—5 percent
Heist fine sandy loam—5 percent
Dune land—5 percent

Characteristics of the Oakcity Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Available water capacity: About 9 inches
Typical profile:
0 to 5 inches—loam
5 to 10 inches—clay loam
10 to 15 inches—silty clay loam
15 to 60 inches—silty clay

Interpretive Groups

Land capability classification: 3s, irrigated, and 6s, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

96—Oasis loam, 0 to 2 percent slopes

Setting

Landform: Terraces and alluvial fans
Slope: 0 to 2 percent
Elevation: 4,700 to 4,800 feet
Mean annual air temperature: 48 to 51 degrees F
Mean annual precipitation: 8 to 10 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Oasis and similar soils—90 percent

Minor components:
Genola silt loam—5 percent
Linoyer loam—5 percent

Characteristics of the Oasis Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and shale
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 6 inches
Typical profile:
0 to 5 inches—loam
5 to 24 inches—fine sandy loam
24 to 48 inches—very fine sandy loam
48 to 60 inches—fine sand

Interpretive Groups

Land capability classification: 3s, irrigated, and 7s, nonirrigated
Range site: Alkali Flat (Black Greasewood)

97—Pibler gravelly fine sandy loam, 2 to 15 percent slopes

Setting

Landform: Alluvial fans and fan remnants
Slope: 2 to 15 percent
Elevation: 5,400 to 5,900 feet
Mean annual air temperature: 46 to 51 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 110 to 120 days

Composition

Major components:
Pibler and similar soils—85 percent

Minor components:
Hiko Peak gravelly loam—10 percent
Taylorsflat loam—5 percent

Characteristics of the Pibler Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 1 inch
Typical profile:
0 to 7 inches—gravelly fine sandy loam
7 to 12 inches—very gravelly loam
12 to 16 inches—indurated hardpan

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Semidesert Shallow Hardpan (8-10 Ppt)

98—Pibler-Pober complex, 2 to 15 percent slopes

Setting

Landform: Alluvial fans and fan remnants
Slope: 2 to 15 percent
Elevation: 5,200 to 5,500 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 120 to 130 days

Composition

Major components:
Pibler and similar soils—40 percent
Pober and similar soils—40 percent

Minor components:
Oakcity loam—5 percent
Donnardo very stony loam—5 percent
Amtoft gravelly loam—5 percent
Atepic very stony clay loam—5 percent

Characteristics of the Pibler Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 1 inch
Typical profile:
0 to 7 inches—gravelly fine sandy loam

7 to 12 inches—very gravelly loam
12 inches—indurated hardpan

Characteristics of the Pober Soil

Depth class: Moderately deep (20 to 40 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 3 inches
Typical profile:
0 to 3 inches—gravelly loam
3 to 23 inches—very cobbly loam
23 to 30 inches—very gravelly loam
30 inches—indurated hardpan

Interpretive Groups

Land capability classification: Pibler—7s, nonirrigated; Pober—7e, nonirrigated
Range site: Pibler—Semidesert Shallow Hardpan (8-10 Ppt); Pober—Semidesert Stony Loam (Black Sagebrush)

99—Pober gravelly loam, 2 to 15 percent slopes

Setting

Landform: Alluvial fans and fan remnants
Slope: 2 to 15 percent
Elevation: 5,100 to 5,300 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 110 to 130 days

Composition

Major components:
Pober and similar soils—85 percent

Minor components:
Lodar extremely stony loam—10 percent
Donnardo very stony loam—5 percent

Characteristics of the Pober Soil

Depth class: Moderately deep (20 to 40 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 3 inches
Typical profile:
0 to 3 inches—gravelly loam
3 to 23 inches—very cobbly loam
23 to 30 inches—very gravelly loam
30 inches—indurated hardpan

Interpretive Groups

Land capability classification: 7e, nonirrigated
Range site: Semidesert Stony Loam (Black Sagebrush)

100—Pober-Berent complex, 2 to 8 percent slopes

Setting

Landform: Pober—alluvial fans and fan remnants; Berent—dunes
Slope: 2 to 8 percent
Elevation: 4,700 to 5,000 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Pober and similar soils—45 percent
Berent and similar soils—40 percent

Minor components:
Mellor silt loam—10 percent
Dune land—5 percent

Characteristics of the Pober Soil

Depth class: Moderately deep (20 to 40 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 2 inches
Typical profile:
0 to 6 inches—loamy fine sand
6 to 13 inches—fine sandy loam
13 to 21 inches—very gravelly sandy loam
21 to 36 inches—extremely cobbly loamy sand
36 inches—indurated hardpan

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
0 to 8 inches—loamy fine sand
8 to 60 inches—fine sand

Interpretive Groups

Land capability classification: Pober—7e, nonirrigated; Berent—7s, nonirrigated

Range site: Pober—Semidesert Gravelly Loam (Wyoming Big Sagebrush) North; Berent—Semidesert Sand (Fourwing Saltbush)

101—Pober-Berent complex, 8 to 30 percent slopes

Setting

Landform: Pober—alluvial fans and fan remnants; Berent—dunes
Slope: Pober—8 to 15 percent; Berent—8 to 30 percent
Elevation: 4,750 to 4,950 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 130 to 140 days

Composition

Major components:
Pober and similar soils—50 percent
Berent and similar soils—35 percent

Minor components:
Dune land—10 percent
Heist fine sandy loam—5 percent

Characteristics of the Pober Soil

Depth class: Moderately deep (20 to 40 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 2 inches
Typical profile:
  0 to 6 inches—loamy fine sand
  6 to 13 inches—fine sandy loam
  13 to 21 inches—very gravelly sandy loam
  21 to 36 inches—extremely cobbly loamy sand
  36 inches—indurated hardpan

Characteristics of the Berent Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
  0 to 8 inches—loamy fine sand
  8 to 60 inches—fine sand

Interpretive Groups

Land capability classification: Pober—7e, nonirrigated; Berent—7s, nonirrigated
Range site: Pober—Semidesert Gravelly Loam (Wyoming Big Sagebrush) North; Berent—Semidesert Sand (Fourwing Saltbush)

102—Preston fine sand, 2 to 30 percent slopes

Setting

Landform: Dunes
Slope: 2 to 30 percent
Elevation: 5,200 to 6,200 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Preston and similar soils—85 percent

Minor components:
Dune land—10 percent
Calita very fine sandy loam—5 percent

Characteristics of the Preston Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Available water capacity: About 5 inches
Typical profile:
  0 to 18 inches—fine sand
  18 to 60 inches—loamy fine sand

Interpretive Groups

Land capability classification: 6s, nonirrigated
Range site: Upland Sand (Indian Ricegrass)

103—Probert loam, 2 to 8 percent slopes

Setting

Landform: Fan remnants
Slope: 2 to 8 percent
Elevation: 5,300 to 6,300 feet
Mean annual air temperature: 46 to 51 degrees F
Mean annual precipitation: 12 to 14 inches
Frost-free period: 100 to 130 days

Composition

Major components:
Probert and similar soils—85 percent

Minor components:
Pavant loam—10 percent
Sterling loam—5 percent

Characteristics of the Probert Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and shale
Available water capacity: About 9 inches
Typical profile:
0 to 4 inches—loam
4 to 24 inches—clay loam
24 to 34 inches—silty clay loam
34 to 60 inches—fine sandy loam

Interpretive Groups

Land capability classification: 4e, nonirrigated
Range site: Upland Loam (Basin Big Sagebrush)

104—Rock outcrop-Lodar complex, 15 to 50 percent slopes

Setting

Landform: Hills
Position on landform: Rock outcrop—shoulders and summits; Lodar—hillslopes
Slope: Lodar—15 to 50 percent
Elevation: 5,600 to 6,500 feet
Mean annual air temperature: 45 to 50 degrees F
Mean annual precipitation: 12 to 16 inches
Frost-free period: 90 to 130 days

Composition

Major components:
Rock outcrop—50 percent
Lodar and similar soils—30 percent

Minor components:
Borvant very gravelly loam—5 percent
Bentaxle gravelly loam—5 percent
Lizzant extremely cobbly loam—5 percent
Lonjon stony loam—5 percent

Characteristics of the Rock Outcrop

Description of areas: Exposures of barren bedrock

Characteristics of the Lodar Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Colluvium and residuum derived from limestone and sandstone
Available water capacity: About 2 inches
Typical profile:
0 to 3 inches—extremely stony loam
3 to 17 inches—very gravelly loam
17 inches—unweathered bedrock

Interpretive Groups

Land capability classification: Rock outcrop—8; Lodar—7s, nonirrigated
Range site: Rock outcrop—not assigned; Lodar—Upland Shallow Loam (Pinyon-Utah Juniper)

105—Rock outcrop-Shotwell complex, 5 to 20 percent slopes

Setting

Landform: Tertiary lava flows
Slope: Shotwell—5 to 20 percent
Elevation: 4,800 to 5,600 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 110 to 130 days

Composition

Major components:
Rock outcrop—70 percent
Shotwell and similar soils—20 percent

Minor components:
Kessler silt loam—5 percent
Thiokol silt loam—5 percent

Characteristics of the Rock Outcrop

Description of areas: Exposures of barren bedrock, mainly late Tertiary basalt and basaltic andesite

Characteristics of the Shotwell Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Residuum derived from basalt and cinders
Available water capacity: About 1 inch
Typical profile:
0 to 3 inches—very cobbly loam
3 to 14 inches—loam
14 inches—unweathered bedrock

Interpretive Groups

Land capability classification: Rock outcrop—8; Shotwell—7s, nonirrigated
Range site: Rock outcrop—not assigned; Shotwell—Semidesert Shallow Loam (Wyoming Big Sagebrush)

106—Rock outcrop-Soma complex, 30 to 60 percent slopes

Setting

Landform: Hills
Position on landform: Rock outcrop—shoulders and summits; Soma—hillslopes
Slope: Soma—30 to 60 percent
Elevation: 4,800 to 6,400 feet
Mean annual air temperature: 45 to 51 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Rock outcrop—70 percent
Soma and similar soils—20 percent

Minor components:
Hiko Peak gravelly loam—5 percent
Spager gravelly very fine sandy loam—5 percent

Characteristics of the Rock Outcrop

Description of areas: Exposures of barren bedrock

Characteristics of the Soma Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Well drained
Dominant parent material: Colluvium and residuum derived from sandstone, limestone, and quartzite
Available water capacity: About 1 inch
Typical profile:
0 to 6 inches—very cobbly loam
6 to 18 inches—extremely cobbly loam
18 inches—unweathered bedrock

Interpretive Groups

Land capability classification: Rock outcrop—8; Soma—7s, nonirrigated
Range site: Rock outcrop—not assigned; Soma—Semidesert Shallow Loam (Black Sagebrush)

107—Searla-Kapod complex, 15 to 30 percent slopes

Setting

Landform: Hillslopes and fan remnants
Slope: Searla—north-facing slopes of 15 to 30 percent; Kapod—south-facing slopes of 15 to 30 percent
Elevation: 5,800 to 6,800 feet
Mean annual air temperature: 43 to 52 degrees F
Mean annual precipitation: 12 to 18 inches
Frost-free period: 80 to 100 days

Composition

Major components:
Searla and similar soils—45 percent
Kapod and similar soils—40 percent

Minor components:
Lizzant extremely cobbly loam—5 percent
Borvant very gravelly loam—5 percent
Current Spring gravelly loam—5 percent

Characteristics of the Searla Soil

Depth class: Deep (40 to 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 6 inches
Typical profile:
0 to 3 inches—gravelly silt loam
3 to 7 inches—very gravelly silt loam
7 to 16 inches—very cobbly silty clay loam
16 to 50 inches—very cobbly silt loam
50 inches—unweathered bedrock

Characteristics of the Kapod Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and colluvium derived from limestone, conglomerate, and quartzite
Available water capacity: About 5 inches
Typical profile:
0 to 4 inches—very stony loam
4 to 14 inches—very gravelly clay loam
14 to 20 inches—extremely gravelly clay loam
20 to 30 inches—extremely gravelly sandy loam
30 to 60 inches—extremely gravelly loam

Interpretive Groups

Land capability classification: Searla—6e, nonirrigated; Kapod—6s, nonirrigated
Range site: Searla—Mountain Gravelly Loam (Oak);

Kapod—Upland Stony Loam (Wyoming Big Sagebrush)

108—Spager gravelly very fine sandy loam, 5 to 15 percent slopes

Setting

Landform: Fan remnants
Slope: 5 to 15 percent
Elevation: 5,300 to 6,300 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 10 to 12 inches
Frost-free period: 100 to 120 days

Composition

Major components:
Spager and similar soils—85 percent

Minor components:
Soma very cobbly loam—10 percent
Donnardo very stony loam—5 percent

Characteristics of the Spager Soil

Depth class: Shallow (10 to 20 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Alluvium derived from quartzite and limestone
Available water capacity: About 1 inch
Typical profile:
0 to 2 inches—gravelly very fine sandy loam
2 to 11 inches—very gravelly very fine sandy loam
11 inches—indurated hardpan

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Semidesert Shallow Hardpan (Utah Juniper)

109—Sterling loam, 2 to 10 percent slopes

Setting

Landform: Fan remnants
Slope: 2 to 10 percent
Elevation: 5,900 to 6,300 feet
Mean annual air temperature: 46 to 51 degrees F
Mean annual precipitation: 12 to 14 inches
Frost-free period: 100 to 140 days

Composition

Major components:
Sterling and similar soils—85 percent

Minor components:
Lodar extremely stony loam—5 percent
Probert gravelly loam—5 percent
Borvant very gravelly loam—5 percent

Characteristics of the Sterling Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium derived from limestone, sandstone, and quartzite
Available water capacity: About 6 inches
Typical profile:
0 to 4 inches—loam
4 to 29 inches—very gravelly loam
29 to 60 inches—very gravelly sandy loam

Interpretive Groups

Land capability classification: 6e, nonirrigated

110—Taylorsflat loam, 0 to 2 percent slopes

Setting

Landform: Alluvial flats, lake plains, and lake terraces
Slope: 0 to 2 percent
Elevation: 4,700 to 5,200 feet
Mean annual air temperature: 46 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Taylorsflat and similar soils—85 percent

Minor components:
Hiko Peak gravelly loam—5 percent
Escalante sandy loam—5 percent
Manassa silt loam—5 percent

Characteristics of the Taylorsflat Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained

Dominant parent material: Alluvium and lacustrine deposits derived from sedimentary rock
Available water capacity: About 10 inches
Typical profile:
0 to 20 inches—loam
20 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

111—Taylorsflat loam, 2 to 5 percent slopes

Setting

Landform: Alluvial flats, lake plains, and lake terraces
Slope: 2 to 5 percent
Elevation: 4,700 to 5,200 feet
Mean annual air temperature: 45 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 120 to 150 days

Composition

Major components:
Taylorsflat and similar soils—85 percent

Minor components:
Hiko Peak gravelly loam—5 percent
Escalante sandy loam—5 percent
Berent loamy fine sand—5 percent

Characteristics of the Taylorsflat Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits derived from sedimentary rock
Available water capacity: About 10 inches
Typical profile:
0 to 20 inches—loam
20 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 2e, irrigated, and 6e, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

112—Thiokol silt loam, 0 to 5 percent slopes

Setting

Landform: Lake terraces
Slope: 0 to 5 percent
Elevation: 4,750 to 4,950 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 100 to 150 days

Composition

Major components:
Thiokol and similar soils—85 percent

Minor components:
Mellor silt loam—5 percent
Berent loamy fine sand—5 percent
Hiko Peak gravelly loam—5 percent

Characteristics of the Thiokol Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 8 inches
Typical profile:
0 to 13 inches—silt loam
13 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 6s, nonirrigated
Range site: Desert Loam (Shadscale)

113—Timpie fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Lake plains and lake terraces
Slope: 0 to 2 percent
Elevation: 4,700 to 4,800 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Timpie and similar soils—85 percent

Minor components:
Uffens silt loam—10 percent
Yenrab loamy fine sand—5 percent

Characteristics of the Timpie Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Salinity: Saline within a depth of 30 inches
Available water capacity: About 8 inches
Typical profile:
0 to 5 inches—fine sandy loam
5 to 60 inches—silt loam

Interpretive Groups

Land capability classification: 4s, irrigated, and 7s, nonirrigated
Range site: Alkali Flat (Black Greasewood)

114—Timpie-Uvada complex, 0 to 2 percent slopes

Setting

Landform: Timpie—lake plains and lake terraces; Uvada—lake plains
Slope: 0 to 2 percent
Elevation: 4,700 to 4,900 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Timpie and similar soils—60 percent
Uvada and similar soils—25 percent

Minor components:
Thiokol silt loam—10 percent
Kanosh very fine sandy loam—5 percent

Characteristics of the Timpie Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Salinity: Saline within a depth of 30 inches
Available water capacity: About 8 inches
Typical profile:
0 to 5 inches—fine sandy loam
5 to 60 inches—silt loam

Characteristics of the Uvada Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 7 inches
Typical profile:
0 to 2 inches—loam
2 to 7 inches—silt loam
7 to 10 inches—silty clay loam
10 to 31 inches—silty clay
31 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Timpie—Alkali Flat (Black Greasewood); Uvada—Desert Flat (Shadscale)

115—Tooele loamy fine sand, 0 to 3 percent slopes

Setting

Landform: Lake plains
Slope: 0 to 3 percent
Elevation: 4,700 to 4,800 feet
Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 130 to 140 days

Composition

Major components:
Tooele and similar soils—85 percent

Minor components:
Uffens silt loam—10 percent
Yenrab loamy fine sand—5 percent

Characteristics of the Tooele Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 6 inches

Typical profile:
0 to 20 inches—loamy fine sand
20 to 39 inches—fine sandy loam
39 to 60 inches—loamy fine sand

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Desert Sandy Loam (Shadscale)

116—Uffens loamy fine sand, 0 to 2 percent slopes

Setting

Landform: Lake plains
Slope: 0 to 2 percent
Elevation: 4,700 to 4,800 feet
Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 130 to 140 days

Composition

Major components:
Uffens and similar soils—85 percent

Minor components:
Yenrab loamy fine sand—10 percent
Uvada clay loam—5 percent

Characteristics of the Uffens Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 6 inches
Typical profile:
0 to 4 inches—loamy fine sand
4 to 10 inches—loam
10 to 16 inches—clay loam
16 to 22 inches—silt loam
22 to 60 inches—fine sandy loam

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Desert Flat (Shadscale)

117—Uffens silt loam, 2 to 8 percent slopes

Setting

Landform: Relict stream terraces
Slope: 2 to 8 percent
Elevation: 4,700 to 4,800 feet
Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Uffens and similar soils—85 percent

Minor components:
Yenrab loamy fine sand—10 percent
Uvada clay loam—5 percent

Characteristics of the Uffens Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 5 inches
Typical profile:
0 to 3 inches—silt loam
3 to 7 inches—loam
7 to 13 inches—clay loam
13 to 60 inches—loam

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Alkali Flat (Black Greasewood)

118—Uvada clay loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Slope: 0 to 2 percent
Elevation: 4,600 to 4,700 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 130 to 140 days

Composition

Major components:
Uvada and similar soils—90 percent

Minor component:
Yenrab loamy fine sand—10 percent

Characteristics of the Uvada Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Salinity: Saline within a depth of 30 inches

Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 8 inches
Typical profile:
0 to 11 inches—clay loam
11 to 20 inches—silty clay loam
20 to 23 inches—silty clay
23 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Desert Flat (Shadscale)

119—Uvada-Yenrab complex, 0 to 10 percent slopes

Setting

Landform: Uvada—lake plains; Yenrab—dunes
Slope: Uvada—0 to 2 percent; Yenrab—0 to 10 percent
Elevation: 4,600 to 4,800 feet
Mean annual air temperature: 48 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 130 to 140 days

Composition

Major components:
Uvada and similar soils—65 percent
Yenrab and similar soils—25 percent

Minor component:
Dune land—10 percent

Characteristics of the Uvada Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 8 inches
Typical profile:
0 to 11 inches—clay loam
11 to 20 inches—silty clay loam
20 to 23 inches—silty clay
23 to 60 inches—silty clay loam

Characteristics of the Yenrab Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 5 inches
Typical profile:
0 to 5 inches—loamy fine sand
5 to 60 inches—loamy sand

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Uvada—Desert Flat (Shadscale); Yenrab—Desert Alkali Sand (Fourwing Saltbush)

120—Woodrow silty clay loam, 0 to 2 percent slopes

Setting

Landform: Lake terraces
Slope: 0 to 2 percent
Elevation: 4,650 to 4,900 feet
Mean annual air temperature: 47 to 52 degrees F
Mean annual precipitation: 8 to 12 inches
Frost-free period: 110 to 140 days

Composition

Major components:
Woodrow and similar soils—85 percent

Minor components:
Oakcity loam—5 percent
Mellor silt loam—5 percent
Manassa silt loam—5 percent

Characteristics of the Woodrow Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Alluvium and lacustrine deposits
Available water capacity: About 9 inches
Typical profile:
0 to 16 inches—silty clay loam
16 to 60 inches—silty clay loam

Interpretive Groups

Land capability classification: 2c, irrigated, and 6c, nonirrigated
Range site: Semidesert Loam (Wyoming Big Sagebrush)

121—Yenrab loamy fine sand, 0 to 10 percent slopes

Setting

Landform: Dunes
Slope: 0 to 10 percent
Elevation: 4,700 to 4,800 feet

Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Yenrab and similar soils—85 percent

Minor components:
Dune land—10 percent
Uffens silt loam—5 percent

Characteristics of the Yenrab Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 5 inches
Typical profile:
0 to 5 inches—loamy fine sand
5 to 60 inches—loamy sand

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Desert Alkali Sand (Fourwing Saltbush)

122—Yenrab-Puddle complex, 0 to 10 percent slopes

Setting

Landform: Yenrab—dunes; Puddle—lake plains
Slope: Yenrab—0 to 10 percent; Puddle—0 to 2 percent
Elevation: 4,600 to 4,800 feet
Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Yenrab and similar soils—50 percent
Puddle and similar soils—35 percent

Minor components:
Dune land—10 percent
Uvada clay loam—5 percent

Characteristics of the Yenrab Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 5 inches
Typical profile:
0 to 5 inches—loamy fine sand
5 to 60 inches—loamy sand

Characteristics of the Puddle Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 8 inches
Typical profile:
0 to 11 inches—fine sandy loam
11 to 36 inches—loam
36 to 60 inches—fine sandy loam

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Yenrab—Desert Alkali Sand (Fourwing Saltbush); Puddle—Desert Loam (Shadscale)

123—Yenrab-Uvada complex, 0 to 10 percent slopes

Setting

Landform: Yenrab—dunes; Uvada—lake plains
Slope: Yenrab—0 to 10 percent; Uvada—0 to 2 percent
Elevation: 4,600 to 5,000 feet
Mean annual air temperature: 49 to 52 degrees F
Mean annual precipitation: 6 to 8 inches
Frost-free period: 120 to 140 days

Composition

Major components:
Yenrab and similar soils—55 percent
Uvada and similar soils—30 percent

Minor components:
Dune land—10 percent
Puddle fine sandy loam—5 percent

Characteristics of the Yenrab Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Dominant parent material: Eolian deposits derived from lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 5 inches
Typical profile:
0 to 5 inches—loamy fine sand
5 to 60 inches—loamy sand

Characteristics of the Uvada Soil

Depth class: Very deep (more than 60 inches)
Drainage class: Well drained
Dominant parent material: Lacustrine deposits
Salinity: Saline within a depth of 30 inches
Sodicity: Sodic within a depth of 30 inches
Available water capacity: About 5 inches
Typical profile:
0 to 3 inches—very fine sandy loam
3 to 23 inches—silty clay
23 to 50 inches—silty clay loam
50 to 60 inches—loamy fine sand

Interpretive Groups

Land capability classification: 7s, nonirrigated
Range site: Yenrab—Desert Alkali Sand (Fourwing Saltbush); Uvada—Alkali Flat (Black Greasewood)

124—Water

This map unit consists of areas covered by water for most of the year.

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1	Amtoft-Rock outcrop complex, 8 to 35 percent slopes	769	0.2
2	Amtoft-Spager complex, 15 to 30 percent slopes	2,865	0.6
3	Ashdown loam, 0 to 2 percent slopes	5,246	1.1
4	Ashdown loam, 2 to 5 percent slopes	284	*
5	Atepic-Rock outcrop complex, 10 to 50 percent slopes	2,210	0.4
6	Atepic-Sonlet association, 30 to 60 percent slopes	10,992	2.3
7	Bandag loam, 0 to 2 percent slopes	8,618	1.8
8	Bandag loam, 2 to 5 percent slopes	7,415	1.5
9	Bandag-Berent complex, 0 to 8 percent slopes	1,825	0.4
10	Beckstrand-Benstot complex, 0 to 2 percent slopes	1,755	0.4
11	Benstot-Scipio complex, 0 to 2 percent slopes	759	0.2
12	Bentaxle-Lodar complex, 15 to 50 percent slopes	5,863	1.2
13	Bentaxle-Rock outcrop complex, 35 to 70 percent slopes	300	*
14	Berent loamy fine sand, 5 to 30 percent slopes	13,252	2.7
15	Berent-Oakcity-Heist complex, 0 to 15 percent slopes	5,369	1.1
16	Berent-Taylorsflat-Mellor complex, 0 to 15 percent slopes	842	0.2
17	Bonolden silt loam, 0 to 5 percent slopes	2,893	0.6
18	Bonolden-Erda complex, 0 to 3 percent slopes	333	*
19	Borvant very gravelly loam, 15 to 40 percent slopes	3,475	0.7
20	Borvant-Jardal complex, 15 to 40 percent slopes	850	0.2
21	Borvant-Jardal complex, 5 to 15 percent slopes	1,069	0.2
22	Borvant-Pavant complex, 2 to 15 percent slopes	21,454	4.4
23	Boxelder silt loam, 0 to 2 percent slopes	21,990	4.5
24	Boxelder silt loam, 2 to 5 percent slopes	3,959	0.8
25	Calita-Erda complex, 0 to 2 percent slopes	4,501	0.9
26	Calita-Erda complex, 2 to 8 percent slopes	8,796	1.8
27	Cessna loam, 0 to 5 percent slopes	736	0.2
28	Checkett-Amtoft complex, 8 to 35 percent slopes	1,270	0.3
29	Church Springs silt loam, 3 to 10 percent slopes	392	*
30	Cloyd-Rock outcrop complex, 5 to 20 percent slopes	770	0.2
31	Collard gravelly loam, 2 to 5 percent slopes	10,473	2.2
32	Curdli loam, 0 to 2 percent slopes	438	*
33	Current Spring gravelly loam, 30 to 50 percent slopes	2,947	0.6
34	Current Spring-Maple Hollow complex, 5 to 15 percent slopes	2,770	0.6
35	Current Spring-Maple Hollow complex, 15 to 30 percent slopes	3,231	0.7
36	Deseret silt loam,0 to 1 percent slopes	8,733	1.8
37	Donnardo very stony loam, 2 to 15 percent slopes	14,706	3.0
38	Donnardo-Borvant-Collard complex, 2 to 5 percent slopes	6,107	1.2
39	Donnardo-Kapod complex, 2 to 15 percent slopes	1,015	0.2
40	Dune land	1,002	0.2
41	Erda silt loam, 2 to 5 percent slopes	1,132	0.2
42	Escalante sandy loam, 0 to 2 percent slopes	6,501	1.3
43	Escalante sandy loam, 2 to 5 percent slopes	8,409	1.7
44	Escalante-Berent-Escalante complex, 2 to 15 percent slopes	2,390	0.5
45	Firmage loam, 2 to 8 percent slopes	483	*
46	Firmage-Hiko Peak complex, 2 to 15 percent slopes	1,064	0.2
47	Freedom silt loam, 0 to 2 percent slopes	1,745	0.4
48	Freedom silt loam, 2 to 5 percent slopes	1,070	0.2
49	Genola silt loam, 0 to 2 percent slopes	1,274	0.3
50	Genola silt loam, 2 to 5 percent slopes	318	*
51	Green River-Poganeab complex, 0 to 3 percent slopes	2,777	0.6
52	Heist fine sandy loam, 0 to 2 percent slopes	3,834	0.8
53	Heist fine sandy loam, 2 to 5 percent slopes	18,316	3.8
54	Heist-Berent complex, 0 to 15 percent slopes	20,609	4.2
55	Heist-Linoyer complex, 0 to 8 percent slopes	981	0.2
56	Hiko Peak extremely stony loam, 4 to 15 percent slopes	1,260	0.2
57	Hiko Peak fine sandy loam, 2 to 8 percent slopes	7,067	1.4
58	Hiko Peak gravelly loam, 2 to 15 percent slopes	1,717	0.4
59	Hiko Peak gravelly loam, 20 to 50 percent slopes	1,423	0.3
60	Hiko Peak stony fine sandy loam, 5 to 15 percent slopes	2,690	0.6

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
61	Hiko Peak-Amtoft complex, 8 to 35 percent slopes	1,652	0.3
62	Hiko Peak-Heist association, 2 to 15 percent slopes	7,210	1.5
63	Hiko Peak-Heist complex, 0 to 2 percent slopes	1,170	0.2
64	Hiko Peak-Heist complex, 2 to 8 percent slopes	4,628	1.0
65	Hiko Peak-Pibler complex, 2 to 15 percent slopes	2,328	0.5
66	Jardal-Donnardo complex, 2 to 15 percent slopes	606	0.1
67	Jigsaw silt loam, 2 to 5 percent slopes	812	0.2
68	Jigsaw-Oakcity complex, 0 to 2 percent slopes	14,038	2.9
69	Kanosh very fine sandy loam, 0 to 2 percent slopes	10,435	2.2
70	Kapod very stony loam, 2 to 15 percent slopes	1,577	0.3
71	Kapod-Collard complex, 2 to 15 percent slopes	635	0.1
72	Kapod-Rock outcrop complex, 30 to 50 percent slopes	454	*
73	Kessler silt loam, 0 to 2 percent slopes	1,188	0.2
74	Kessler silt loam, 2 to 8 percent slopes	4,453	0.9
75	Kessler-Linoyer complex, 0 to 2 percent slopes	2,211	0.4
76	Kidman-Preston complex, 2 to 30 percent slopes	633	0.1
77	Kitchell gravelly loam, 40 to 70 percent slopes	100	*
78	Kudlac silt loam, 15 to 50 percent slopes	4,760	1.0
79	Larwood-Berent complex, 0 to 8 percent slopes	1,665	0.3
80	Lava flows-Berent complex, 0 to 10 percent slopes	6,675	1.4
81	Lava flows-Shotwell complex, 0 to 8 percent slopes	14,829	3.0
82	Linoyer loam, 0 to 2 percent slopes	2,712	0.6
83	Linoyer very fine sandy loam, 2 to 5 percent slopes	915	0.2
84	Lizzant extremely cobbly loam, 30 to 60 percent slopes	2,089	0.4
85	Lodar extremely stony loam, 20 to 50 percent slopes	136	*
86	Lodar-Kidman complex, 15 to 50 percent slopes	1,457	0.3
87	Lodar-Rock outcrop complex, 50 to 70 percent slopes	200	*
88	Lonjon stony loam, 30 to 60 percent slopes	6,232	1.3
89	Manassa silt loam, 0 to 2 percent slopes	2,238	0.5
90	Manassa-Mellor silt loams, 0 to 2 percent slopes	5,588	1.2
91	Medburn-Berent-Escalante complex, 0 to 8 percent slopes	5,160	1.1
92	Memmott silt loam, 0 to 2 percent slopes	873	0.2
93	Musinia silt loam, 0 to 2 percent slopes	391	*
94	Musinia silt loam, 2 to 5 percent slopes	243	*
95	Oakcity loam, 0 to 2 percent slopes	2,868	0.6
96	Oasis loam, 0 to 2 percent slopes	1,552	0.3
97	Pibler gravelly fine sandy loam, 2 to 15 percent slopes	5,073	1.0
98	Pibler-Pober complex, 2 to 15 percent slopes	505	0.1
99	Pober gravelly loam, 2 to 15 percent slopes	3,338	0.7
100	Pober-Berent complex, 2 to 8 percent slopes	573	0.1
101	Pober-Berent complex, 8 to 30 percent slopes	1,864	0.4
102	Preston fine sand, 2 to 30 percent slopes	422	*
103	Probert loam, 2 to 8 percent slopes	5,068	1.0
104	Rock outcrop-Lodar complex, 15 to 50 percent slopes	1,386	0.3
105	Rock outcrop-Shotwell complex, 5 to 20 percent slopes	400	*
106	Rock outcrop-Soma complex, 30 to 60 percent slopes	411	*
107	Searla-Kapod complex, 15 to 30 percent slopes	2,046	0.4
108	Spager gravelly very fine sandy loam, 5 to 15 percent slopes	1,934	0.4
109	Sterling loam, 2 to 10 percent slopes	1,712	0.4
110	Taylorsflat loam, 0 to 2 percent slopes	3,999	0.8
111	Taylorsflat loam, 2 to 5 percent slopes	7,107	1.5
112	Thiokol silt loam, 0 to 5 percent slopes	10,393	2.1
113	Timpie fine sandy loam, 0 to 2 percent slopes	3,702	0.8
114	Timpie-Uvada complex, 0 to 2 percent slopes	551	0.1
115	Tooele loamy fine sand, 0 to 3 percent slopes	2,068	0.4
116	Uffens loamy fine sand, 0 to 2 percent slopes	373	*
117	Uffens silt loam, 2 to 8 percent slopes	1,275	0.3
118	Uvada clay loam, 0 to 2 percent slopes	323	*
119	Uvada-Yenrab complex, 0 to 10 percent slopes	6,637	1.4
120	Woodrow silty clay loam, 0 to 2 percent slopes	2,183	0.4

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
121	Yenrab loamy fine sand, 0 to 10 percent slopes	12,082	2.5
122	Yenrab-Puddle complex, 0 to 10 percent slopes	8,324	1.7
123	Yenrab-Uvada complex, 0 to 10 percent slopes	5,259	1.1
124	Water	38	*
	Total	484,750	100.0

* Less than 0.1 percent.

Formation and Classification of the Soils

This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification. The classification of the soils in this survey area is shown in table 5.

Formation of the Soils

Soil is a natural, three-dimensional body on the earth's surface that supports plants. Soil has properties that differ from those of the underlying bedrock or unconsolidated material. These properties are a reflection of soil-forming processes that are initiated and sustained by climate and living organisms acting on parent material and modified by relief over a period of time. In a given area, one factor may exert a stronger influence on soil formation than another but the interaction of all the factors determines the kind of soil that forms. In this survey the soil-forming factors are discussed individually; however, there is a strong interaction of all the soil-forming factors.

Climate

The climate in the survey area ranges from arid at the lower elevations to subhumid at the higher elevations. The average annual air temperature ranges from 40 to 52 degrees F. The effects of temperature and moisture are influenced by aspect, elevation, and wind. In some areas the available moisture on northerly aspects at lower elevations is similar to that on southerly aspects at elevations 1,000 to 2,000 feet higher. The influence of climate is exhibited mainly in the amount of organic matter in the surface layer; the translocation of soluble salts, minerals, and clay; and the formation of distinct soil horizons. The translocation of minerals, salts, and clay is a result of the downward movement of water through the soil. In areas of arid climate at lower elevations, precipitation is only 6 to 8 inches annually and only a slight amount of organic matter is in the surface layer. Soluble salts are more common in these soils. In areas of semiarid climate, precipitation is 8 to 12 inches annually and the organic matter content is low or moderately low. A layer of calcium carbonate accumulation commonly has formed in the soils in these areas, and the soluble salts usually have been translocated to a depth of more than 60 inches. In areas of subhumid climate, precipitation is 12 to 22 inches annually and the organic matter content is moderate. The soils in these areas have a layer of clay accumulation and cemented calcium carbonate.

Living Organisms

The natural vegetation in the survey area ranges from sparse shrubs and grasses on some soils at lower elevations to dense stands of juniper, pinyon, and oakbrush on the soils at higher elevations. A few small areas of Douglas fir are at the highest elevations of the Valley Mountains. The accumulation of organic matter in the surface layer is closely related to the amount of vegetation produced on a soil. Because plant growth is sparse on the arid soils, such as those of the Curdli, Puddle, Timpie, Tooele, Uffens, Uvada, and Yenrab series, the organic matter content of the surface layer is less than 1 percent. The organic matter content of the surface layer of the semiarid soils generally is 1.0 to 1.5 percent, and that of the subhumid soils generally is more than 2 percent. Deep-rooted grasses are important to soil development because they contribute organic matter to the soils and recycle plant nutrients. As the nutrients are moved by water down through the soils, the plants use them to produce foliage. When the plant dies or the leaves fall off and decompose, nutrients are returned to the soils. Greasewood and shadscale are common salt-tolerant plants that have a considerable recycling influence on the soils that are affected by salts, especially those of the Uffens and Uvada series. The leaves of greasewood and shadscale contain salts that have been assimilated from the soil. Some of the salts are leached out, but the sodium salts react with the soil to increase the amount of exchangeable sodium.

Pinyon and juniper affect the soil by reducing the amount and kinds of understory plants. Sparse or no understory plants are in many areas that support pinyon and juniper. The organic matter content of the soils in these areas is low, and the soils are susceptible to erosion. Examples are soils of the Amtoft, Atepic, Firmage, Hiko Peak, Pibler, Pober, Shotwell, and Spager series.

Burrowing animals, cicadas, earthworms, and other insects influence the soil-forming process. They mix the soil and thus retard horizon formation in places. Living organisms affect the soil structure and porosity and thus influence the movement of air and water through the soil.

Farmers influence soil formation by tilling and irrigating. The crops grown on irrigated land commonly produce large amounts of organic matter that can be returned to the soil. Examples of irrigated soils are those of the Boxelder, Escalante, Heist, Jigsaw, and Taylorsflat series.

Topography

Drainage, elevation, aeration, aspect, steepness of slope, and susceptibility to erosion are factors related to relief that affect the soil-forming process. The dominant landforms or topographic features in the survey area are alluvial fans, fan remnants, lake plains, lake terraces, hills, ridges, and mountain slopes. The Ashdown, Borvant, Calita, Collard, Donnardo, Erda, Escalante, Firmage, Heist, Hiko Peak, Pavant, Pibler, Searla, and Taylorsflat soils are on nearly level to sloping alluvial fans and fan remnants. The Bandag, Berent, Boxelder, Curdli, Deseret, Freedom, Jigsaw, Kanosh, Kessler, Linoyer, Manassa, Mellor, Oasis, Timpie, Tooele, Uffens, Uvada, and Yenrab soils are on lake plains and lake terraces. The Amtoft, Atepic, Checkett, Jardal, Lizzant, Lodar, Lonjon, Pober, Soma, Sonlet, and Spager soils are on hills, ridges, and mountain slopes. Aspect has a significant effect on the climatic environment, vegetation, and other soil characteristics. In the Valley Mountains, east of the Scipio Valley, the soils on north aspects commonly have denser vegetation, lower temperatures, more effective moisture, and a more strongly developed profile than do the soils on the steep, south aspects. The layer of litter on the surface and the dark-colored surface layer are thicker on the north aspects. As elevation and precipitation decrease, the effect of aspect on the vegetation and climatic environment also decreases. In the 12- to 16-inch precipitation zone, pinyon and juniper commonly are on north and east aspects. The soils in these areas have a thicker, darker colored surface layer than those commonly on south and west aspects. At the higher elevations, conifers grow on the north and east aspects. In the 8- to 12-inch precipitation zone, the effect of aspect on the climatic environment is minimal.

Parent Material

Parent material is the material in which soils form. It can be material that has weathered in place or has been transported by wind or water. For many of the soils in the survey area, there is no distinct difference between the soil material in the lower part of the profile and the underlying parent material. Parent material affects soil formation in several ways. It largely determines the texture, structure, consistency, and color of the soil. The kind of parent material also influences the mineralogy of the soil. The main kinds of parent material in the survey area are alluvium and colluvium derived from sedimentary, basic igneous, and intermediate igneous rock; eolian and lacustrine deposits; and residuum derived from sandstone, quartzite, limestone, and conglomerate. The soils that formed in alluvium derived from sedimentary rock are mainly in the Pahvant Valley and are associated with alluvial fans. The Borvant, Current Spring, Donnardo, Hiko Peak, Kapod, Pavant, Pibler, and Pober soils formed in gravelly and cobbly alluvium. The Ashdown, Bandag, Boxelder, Calita, Erda, Escalante, Freedom, Heist, Jigsaw, Manassa, Mellor, and Taylorsflat soils formed in medium textured to moderately fine textured alluvium. The Oakcity and Uvada soils formed in fine textured alluvium derived mainly from sedimentary rock. The medium textured to fine textured alluvium commonly is underlain by or intermixed with lacustrine sediment. Soils that formed mainly in lacustrine sediment are in the western part of the survey area on lake plains and low lake terraces. The Curdli, Deseret, Kanosh, Kessler, Oasis, Thiokol, Timpie, Uffens, and Uvada soils formed in this material. All of these soils are affected by salt to varying degrees. The soils that formed in eolian material are mainly in the area west of Oak City, but some are in areas near Lynndyl and Greenwood. The Berent, Preston, and Yenrab soils formed in this material. The Amtoft, Atepic, Lodar, and Soma soils formed in residuum derived from sandstone, quartzite, limestone, and conglomerate.

Time

The kinds of horizons in soils and the degree of expression of these horizons depend in part upon the length of time available for development. The soils in the survey area range from young to old in their degree of development. The youngest soils in degree of horizonation are the recent alluvial soils such as those of the Beckstrand, Cessna, Genola, Scipio, and Woodrow series. These soils receive sediment from overflow along the bottom lands and flood plains. Consequently, the length of time available for differentiation of horizons in these soils is short. Some organic matter has accumulated in the surface layer, but any further differentiation between the horizons is a result of stratification caused by periodic deposition of sediment. The oldest soils in degree of horizonation are those of the Borvant, Checkett, Collard, Current Spring, Jardal, Kapod, Larwood, Maple Hollow, Pavant, Pibler, Pober, and Spager series. These soils are primarily on fan remnants. The Borvant, Jardal, Pavant, Pibler, Pober, and Spager soils have a strongly developed cemented pan that exhibits a high degree of translocation, deposition, and cementation of calcium carbonate. The Checkett, Collard, Current Spring, Kapod, Larwood, and Maple Hollow soils exhibit translocation of clay into the subsoil.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 5 shows the classification of the soils in the survey area *(5)*. The categories are defined in the following paragraphs.

ORDER. Eleven soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Mollisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Xeroll (*Xer*, meaning dry, plus *oll*, from Mollisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Calcixerolls (*Calci*, indicating a layer of calcium carbonate accumulation, plus *xeroll*, the suborder of the Mollisols that has a xeric moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Calcixerolls.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, thickness of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, mesic Typic Calcixerolls.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

Table 5.--Classification of the Soils

Soil name	Family or higher taxonomic class
Amtoft	Loamy-skeletal, carbonatic, mesic Lithic Xeric Haplocalcids
Ashdown	Fine-loamy, mixed (calcareous), mesic Xeric Torriorthents
Atepic	Loamy, carbonatic, mesic, shallow Calcixerollic Xerochrepts
Bandag	Fine-loamy, mixed (calcareous), mesic Xeric Torriorthents
Beckstrand	Coarse-loamy, mixed, mesic Oxyaquic Calcixerolls
Benstot	Fine-silty, mixed, mesic Oxyaquic Haploxerolls
Bentaxle	Loamy-skeletal, carbonatic, mesic Lithic Xerochrepts
Berent	Mixed, mesic Xeric Torripsamments
Bonolden	Fine-silty, mixed, mesic Pachic Calcixerolls
Borvant	Loamy-skeletal, carbonatic, mesic, shallow Petrocalcic Palexerolls
Boxelder	Fine-loamy, carbonatic, mesic Xeric Haplocalcids
Calita	Fine-loamy, mixed, mesic Typic Calcixerolls
Cessna	Fine-loamy, mixed (calcareous), mesic Typic Xerofluvents
Checkett	Loamy-skeletal, mixed, mesic Lithic Xeric Haplargids
Church Springs	Fine-silty, mixed, frigid Typic Calcixerolls
Cloyd	Loamy, carbonatic, mesic Lithic Xeric Haplocalcids
Collard	Loamy-skeletal, mixed, mesic Typic Argixerolls
Curdli	Fine-silty, carbonatic, mesic Typic Haplocalcids
Current Spring	Clayey-skeletal, montmorillonitic, mesic Typic Argixerolls
Deseret	Fine-silty, mixed, mesic Xeric Haplogypsids
Donnardo	Loamy-skeletal, mixed, mesic Typic Calcixerolls
Erda	Fine-silty, mixed, mesic Typic Calcixerolls
Escalante	Coarse-loamy, mixed, mesic Xeric Haplocalcids
Firmage	Fine-loamy, mixed, mesic Xeric Haplocalcids
Freedom	Fine-silty, mixed, mesic Xeric Haplocalcids
Genola	Fine-silty, mixed (calcareous), mesic Xeric Torrifluvents
Green River	Coarse-loamy, mixed (calcareous), mesic Oxyaquic Torrifluvents
Heist	Coarse-loamy, mixed (calcareous), mesic Xeric Torriorthents
Hiko Peak	Loamy-skeletal, mixed, mesic Xeric Haplocalcids
Jardal	Loamy-skeletal, carbonatic, mesic Petrocalcic Palexerolls
Jigsaw	Fine-silty, mixed, mesic Xeric Torriorthents
Kanosh	Coarse-loamy, mixed, mesic Xeric Calcigypsids
Kapod	Loamy-skeletal, mixed, mesic Calcic Argixerolls
Kessler	Fine-silty, carbonatic, mesic Xeric Haplocalcids
Kidman	Coarse-loamy, mixed, mesic Calcic Haploxerolls
Kitchell	Loamy-skeletal, carbonatic Calcic Pachic Cryoborolls
Kudlac	Fine-silty, mixed (calcareous), mesic Xeric Torriorthents
Larwood	Fine-silty, mixed, mesic Xeric Calciargids
Linoyer	Coarse-silty, mixed (calcareous), mesic Xeric Torriorthents
Lizzant	Loamy-skeletal, carbonatic, frigid Typic Calcixerolls
Lodar	Loamy-skeletal, carbonatic, mesic Lithic Calcixerolls
Lonjon	Loamy-skeletal, carbonatic, frigid Typic Calcixerolls
Manassa	Fine-silty, mixed (calcareous), mesic Xeric Torriorthents
Maple Hollow	Fine, montmorillonitic, mesic Typic Argixerolls
Medburn	Coarse-loamy, mixed (calcareous), mesic Xeric Torriorthents
Mellor	Fine-silty, mixed, mesic Xeric Natrargids
Memmott	Fine-silty, mixed (calcareous), mesic Aquic Torrifluvents
Musinia	Fine-silty, mixed, mesic Torrifluventic Haploxerolls
Oakcity	Fine, mixed (calcareous), mesic Xerertic Torriorthents
Oasis	Coarse-loamy, mixed (calcareous), mesic Xeric Torrifluvents
Pavant	Loamy, mixed, mesic, shallow Petrocalcic Palexerolls
Pibler	Loamy-skeletal, mixed, mesic, shallow Calcic Petrocalcids
Pober	Loamy-skeletal, mixed, mesic Calcic Petrocalcids
Poganeab	Fine-loamy, mixed (calcareous), mesic Fluvaquentic Endoaquepts
Preston	Mixed, mesic Typic Xeropsamments
Probert	Fine-loamy, mixed, mesic Typic Calcixerolls
Puddle	Coarse-loamy, carbonatic, mesic Petronodic Haplocalcids
Scipio	Fine-loamy, mixed (calcareous), mesic Fluvaquentic Endoaquolls
Searla	Loamy-skeletal, mixed, frigid Calcic Argixerolls
Shotwell	Loamy, mixed (calcareous), mesic Lithic Xeric Torriorthents
Soma	Loamy-skeletal, mixed, mesic Lithic Xeric Haplocalcids
Sonlet	Loamy-skeletal, mixed, frigid Lithic Xerochrepts
Spager	Loamy-skeletal, carbonatic, mesic, shallow Calcic Petrocalcids
Sterling	Loamy-skeletal, mixed, mesic Typic Calcixerolls

Table 5.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Thiokol	Fine-silty, mixed, mesic Sodic Xeric Haplocalcids
Taylorsflat	Fine-loamy, mixed, mesic Xeric Haplocalcids
Timpie	Fine-silty, mixed (calcareous), mesic Typic Torriorthents
Tooele	Coarse-loamy, mixed (calcareous), mesic Typic Torriorthents
Uffens	Fine-loamy, mixed, mesic Typic Natrargids
Uvada	Fine, montmorillonitic, mesic Typic Natrargids
Woodrow	Fine-silty, mixed (calcareous), mesic Xeric Torrifluvents
Yenrab	Mixed, mesic Typic Torripsamments

Soil Series and Their Morphology

In this section each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each soil series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" *(9)*. Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" *(8)*. Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

Amtoft Series

Depth class: Shallow
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landscape position: Hills
Parent material: Residuum and colluvium derived from limestone, sandstone, and conglomerate
Slope: 8 to 35 percent
Elevation: 5,300 to 6,500 feet
Average annual precipitation: 10 to 12 inches
Average annual air temperature: 45 to 49 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xeric Haplocalcids

Typical Pedon

Gravel and cobbles cover 25 percent of the surface.

A—0 to 4 inches; brown (10YR 5/3) gravelly loam, very pale brown (10YR 7/4) dry; weak medium subangular blocky structure parting to moderate medium granular; soft, friable, slightly sticky and slightly plastic; few fine roots and common very fine roots; violently effervescent; 59 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); 20 percent gravel; clear smooth boundary.

AB—4 to 8 inches; pale brown (10YR 6/3) gravelly loam, very pale brown (10YR 7/4) dry; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; violently effervescent; 68 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); 20 percent gravel; clear wavy boundary.

Bk1—8 to 12 inches; pale brown (10YR 6/3) very cobbly loam, very pale brown (10YR 8/4) dry; weak medium subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; few very fine roots; violently effervescent; 70 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in concretions and filaments; 35 percent gravel and 25 percent cobbles; strongly alkaline (pH 8.8); gradual smooth boundary.

Bk2—12 to 19 inches; very pale brown (10YR 7/3) very cobbly loam, very pale brown (10YR 8/4) dry; weak fine subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; few very fine roots; violently effervescent; 75 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in filaments and masses; 30 percent gravel and 20 percent cobbles; strongly alkaline (pH 8.8); abrupt wavy boundary.

R—19 inches; fine-grained, calcareous sandstone.

Typical Pedon Location

Map unit in which located: Amtoft-Rock outcrop complex, 8 to 35 percent slopes
Location in survey area: 2,800 feet north and 800 feet west of the southeast corner of sec. 20, T. 17 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—10 to 20 inches
Depth to calcic horizon—4 to 9 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—35 to 60 percent

A horizon:
Hue—7.5YR or 10YR
Value—5 to 7 dry, 3 to 5 moist
Chroma—2 to 4
Content of gravel—15 to 35 percent
Calcium carbonate equivalent—50 to 70 percent
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Hue—7.5YR or 10YR
Value—6 to 8 dry, 4 to 7 moist
Chroma—2 to 4
Content of gravel—15 to 45 percent
Content of cobbles—15 to 35 percent
Calcium carbonate equivalent—70 to 80 percent
Reaction—moderately alkaline or strongly alkaline

Ashdown Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Alluvial fans and alluvial flats
Parent material: Alluvium derived from sandstone and conglomerate
Slope: 0 to 5 percent
Elevation: 4,800 to 5,000 feet
Average annual precipitation: 10 to 12 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed (calcareous), mesic Xeric Torriorthents

Typical Pedon

A1—0 to 5 inches; dark reddish brown (5YR 3/4) loam, reddish brown (5YR 5/4) dry; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine and fine vesicular pores; moderately effervescent; 13 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—5 to 20 inches; reddish brown (5YR 4/4) loam, reddish brown (5YR 5/4) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and common medium roots; common very fine tubular pores; moderately effervescent; 14 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

C1—20 to 43 inches; reddish brown (5YR 4/4) loam, light reddish brown (5YR 6/4) dry; massive; hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; strongly effervescent; 25 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

C2—43 to 60 inches; reddish brown (5YR 4/4) loam, light reddish brown (5YR 6/4) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; 23 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Ashdown loam, 0 to 2 percent slopes
Location in survey area: 1,000 feet west and 2,600 feet south of the northeast corner of sec. 12, T. 23 S., R. 6 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—0 to 15 percent

A horizon:
Hue—5YR or 7.5YR
Value—5 or 6 dry, 3 or 4 moist
Chroma—2 to 4

C horizon:
Hue—5YR or 7.5YR
Value—5 or 6 dry, 3 or 4 moist
Chroma—2 to 4
Content of gravel—0 to 15 percent
Reaction—moderately alkaline or strongly alkaline

Atepic Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Slow
Landscape position: Mountain slopes and hills
Parent material: Residuum and colluvium derived from shale
Slope: 10 to 50 percent

Elevation: 5,600 to 7,200 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 45 to 49 degrees F
Frost-free period: 100 to 120 days

Taxonomic class: Loamy, carbonatic, mesic, shallow Calcixerollic Xerochrepts

Typical Pedon

A1—0 to 2 inches; dark yellowish brown (10YR 4/4) very stony clay loam, light yellowish brown (10YR 6/4) dry; weak medium platy structure parting to strong fine granular; slightly hard, friable, slightly sticky and moderately plastic; few very fine roots; many fine vesicular pores; 30 to 35 percent shale fragments larger than 3 inches in diameter; strongly effervescent; 32 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.

A2—2 to 6 inches; dark yellowish brown (10YR 4/4) flaggy clay loam, light yellowish brown (10YR 6/4) dry; moderate thin and medium platy structure; soft, very friable, slightly sticky and moderately plastic; common very fine roots and few fine roots; few fine interstitial pores; 30 to 35 percent shale fragments larger than 3 inches in diameter; strongly effervescent; 40 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); abrupt wavy boundary.

Bk1—6 to 10 inches; light olive brown (2.5Y 5/4) flaggy clay loam, pale yellow (2.5Y 7/4) dry; weak medium platy structure; hard, firm, slightly sticky and moderately plastic; common very fine, fine, and medium roots; 25 percent shale fragments smaller than 3 inches in diameter; strongly effervescent; 43 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses; strongly alkaline (pH 8.8); abrupt wavy boundary.

Bk2—10 to 18 inches; light olive brown (2.5Y 5/4) flaggy clay loam, pale yellow (2.5Y 7/4) dry; massive; very hard, firm, slightly sticky and moderately plastic; few very fine and fine roots and common medium roots; 25 percent gravel and shale fragments smaller than 3 inches in diameter; violently effervescent; 47 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in concretions on the underside of rock fragments; strongly alkaline (pH 8.8); abrupt smooth boundary.

Cr—18 to 25 inches; yellowish brown (10YR 5/4) weathered shale; very pale brown (10YR 7/4) dry; very hard, firm; strongly effervescent; strongly alkaline (pH 8.8).

Typical Pedon Location

Map unit in which located: Atepic-Sonlet association, 30 to 60 percent slopes
Location in survey area: 700 feet west and 900 feet south of the northwest corner of sec. 14, T. 19 S., R. 2 W.

Range in Characteristics

Profile:
Depth to weathered shale—10 to 20 inches
Depth to calcic horizon—6 to 12 inches

Particle-size control section:
Content of clay—27 to 35 percent
Content of rock fragments—20 to 35 percent

A horizon:
Hue—7.5YR or 10YR
Value—5 or 6 dry, 4 or 5 moist
Chroma—3 or 4
Texture—very stony clay loam or flaggy clay loam
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Hue—10YR or 2.5Y
Value—5 to 7 dry, 5 or 6 moist
Chroma—3 or 4
Texture—flaggy clay loam or flaggy silty clay loam

Bandag Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Alluvial fans and alluvial flats
Parent material: Alluvium derived from limestone and sandstone
Slope: 0 to 5 percent
Elevation: 4,700 to 5,200 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 160 days

Taxonomic class: Fine-loamy, mixed (calcareous), mesic Xeric Torriorthents

Typical Pedon

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) loam, yellowish brown (10YR 5/4) dry; weak fine subangular blocky structure parting to weak medium platy; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and common medium roots; many very fine and fine tubular pores and few fine vesicular pores; strongly effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.

C1—7 to 23 inches; dark yellowish brown (10YR 4/4) loam, yellowish brown (10YR 5/4) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and fine tubular pores; strongly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); gradual smooth boundary.

C2—23 to 49 inches; yellowish brown (10YR 5/4) loam, light yellowish brown (10YR 6/4) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and fine tubular pores; strongly effervescent; 25 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); abrupt wavy boundary.

2C—49 to 60 inches; pale brown (10YR 6/3) loam, very pale brown (10YR 7/3) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and fine tubular pores; strongly effervescent; 30 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8).

Typical Pedon Location

Map unit in which located: Bandag loam, 0 to 2 percent slopes

Location in survey area: 2,580 feet east and 30 feet south of the northwest corner of sec. 25, T. 20 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Value—5 dry, 3 or 4 moist
Chroma—2 to 4
Reaction—moderately alkaline or strongly alkaline

C horizon:
Hue—7.5YR or 10YR
Value—5 to 7 dry, 4 to 6 moist
Chroma—3 or 4
Reaction—moderately alkaline or strongly alkaline

Beckstrand Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Landscape position: Flood plains
Parent material: Alluvium derived from limestone and sandstone
Slope: 0 to 2 percent
Elevation: 4,600 to 4,800 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 47 to 52 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Coarse-loamy, mixed, mesic Oxyaquic Calcixerolls

Typical Pedon

A1—0 to 8 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine and medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine vesicular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—8 to 17 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; common very fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

Bk—17 to 34 inches; dark brown (10YR 4/3) fine sandy loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated and in veins; moderately alkaline (pH 8.0); clear smooth boundary.

C—34 to 60 inches; dark yellowish brown (10YR 4/4) loam, pale brown (10YR 6/3) dry; few medium faint brown (7.5YR 5/4) redoximorphic concentrations; massive; slightly hard, friable, slightly sticky and slightly plastic; moderately effervescent; slightly alkaline (pH 7.8).

Typical Pedon Location

Map unit in which located: Beckstrand-Benstot complex, 0 to 2 percent slopes

Location in survey area: 1,800 feet south and 700 feet east of the northwest corner of sec. 7, T. 22 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to water table—24 to 36 inches
Depth to redoximorphic features—30 to 40 inches
Thickness of mollic epipedon—12 to 17 inches

Particle-size control section:
Content of clay—12 to 18 percent
Content of rock fragments—0 to 10 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist
Chroma—1 to 3
Texture—loam or fine sandy loam

Bk horizon:
Value—6 to 8 dry, 4 or 5 moist
Chroma—2 or 3
Texture—loam or fine sandy loam

C horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 to 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline

Benstot Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Landscape position: Flood plains
Parent material: Alluvium derived from limestone and sandstone
Slope: 0 to 2 percent
Elevation: 4,600 to 6,000 feet
Average annual precipitation: 8 to 14 inches
Average annual air temperature: 47 to 52 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Fine-silty, mixed, mesic Oxyaquic Haploxerolls

Typical Pedon

A1—0 to 8 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine vesicular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

A2—8 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw—16 to 32 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine tubular pores; moderately effervescent; carbonates are disseminated; slightly alkaline (pH 7.8); clear smooth boundary.

C—32 to 60 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; few faint brown (7.5YR 5/4) redoximorphic concentrations; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; moderately effervescent; carbonates are disseminated; slightly alkaline (pH 7.6).

Typical Pedon Location

Map unit in which located: Beckstrand-Benstot complex, 0 to 2 percent slopes
Location in survey area: 2,000 feet west and 500 feet north of the southeast corner of sec. 1, T. 22 S., R. 6 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to water table—30 to 48 inches
Depth to redoximorphic features—30 to 50 inches
Thickness of mollic epipedon—12 to 16 inches

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist
Chroma—1 to 3
Texture—loam or silt loam

Bw and C horizons:
Value—5 or 6 dry, 4 or 5 moist
Chroma—1 to 3
Reaction—slightly alkaline or moderately alkaline

Bentaxle Series

Depth class: Shallow
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landscape position: Hillslopes, mountain slopes, and ridges
Parent material: Residuum and colluvium derived from limestone and sandstone
Slope: 15 to 70 percent
Elevation: 5,300 to 6,500 feet
Average annual precipitation: 12 to 14 inches
Average annual air temperature: 45 to 49 degrees F
Frost-free period: 100 to 130 days

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Xerochrepts

Typical Pedon

Gravel and cobbles cover 25 percent of the surface.

A1—0 to 3 inches; brown (10YR 5/3) gravelly loam, very pale brown (10YR 7/4) dry; weak medium subangular blocky structure parting to moderate medium granular; soft, friable, slightly sticky and slightly plastic; few fine roots and common very fine roots; 20 percent gravel; violently effervescent; 55 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

A2—3 to 5 inches; pale brown (10YR 6/3) gravelly loam, very pale brown (10YR 7/4) dry; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 20 percent gravel; violently effervescent; 60 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear wavy boundary.

Bk1—5 to 14 inches; pale brown (10YR 6/3) very cobbly loam, very pale brown (10YR 8/4) dry; weak medium subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; few very fine roots; 35 percent gravel and 25 percent cobbles; violently effervescent; 70 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in concretions and filaments; strongly alkaline (pH 8.8); gradual smooth boundary.

Bk2—14 to 19 inches; very pale brown (10YR 7/3) very gravelly fine sandy loam, very pale brown (10YR 8/4) dry; weak fine subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; few very fine roots; 30 percent gravel and 15 percent cobbles; violently effervescent; 75 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in filaments and masses; strongly alkaline (pH 8.8); abrupt wavy boundary.

R—19 inches; fine-grained, calcareous sandstone.

Typical Pedon Location

Map unit in which located: Bentaxle-Lodar complex, 15 to 50 percent slopes
Location in survey area: 200 feet south and 1,200 feet west of the northeast corner of sec. 27, T. 17 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—10 to 20 inches
Depth to calcic horizon—2 to 8 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—35 to 60 percent

A horizon:
Hue—7.5YR or 10YR
Value—5 to 7 dry, 3 to 6 moist
Chroma—2 to 4
Texture—gravelly loam or stony loam
Content of gravel—10 to 35 percent
Content of cobbles and stones—0 to 25 percent
Calcium carbonate equivalent—50 to 70 percent
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Hue—7.5YR or 10YR
Value—6 to 8 dry, 4 to 7 moist
Texture—very cobbly loam, very cobbly fine sandy loam, very gravelly loam, or very gravelly fine sandy loam
Chroma—2 to 4
Content of gravel—15 to 45 percent
Content of cobbles—15 to 35 percent
Calcium carbonate equivalent—65 to 80 percent
Reaction—moderately alkaline or strongly alkaline

Berent Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid
Landscape position: Dunes
Parent material: Eolian sand derived from lacustrine deposits
Slope: 2 to 30 percent
Elevation: 4,600 to 6,200 feet

Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Mixed, mesic Xeric Torripsamments

Typical Pedon

C1—0 to 8 inches; yellowish brown (10YR 5/4) loamy fine sand, very pale brown (10YR 7/4) dry; single grain; loose, very friable, nonsticky and nonplastic; few very fine and fine roots; strongly effervescent; 5 percent calcium carbonate equivalent; carbonates are disseminated; slightly alkaline (pH 7.6); gradual smooth boundary.

C2—8 to 33 inches; yellowish brown (10YR 5/4) fine sand, very pale brown (10YR 7/4) dry; single grain; loose, very friable, nonsticky and nonplastic; few medium and coarse roots and common very fine and fine roots; strongly effervescent; 5 percent calcium carbonate equivalent; carbonates are disseminated; slightly alkaline (pH 7.8); gradual smooth boundary.

C3—33 to 60 inches; yellowish brown (10YR 5/4) fine sand, very pale brown (10YR 7/4) dry; single grain; loose, very friable, nonsticky and nonplastic; strongly effervescent; 10 percent calcium carbonate equivalent; slightly alkaline (pH 7.8).

Typical Pedon Location

Map unit in which located: Berent loamy fine sand, 5 to 30 percent slopes
Location in survey area: 1,200 feet west and 4,200 feet north of the southeast corner of sec. 23, T. 16 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—2 to 5 percent

C horizon:
Hue—10YR or 7.5YR
Value—6 or 7 dry, 5 or 6 moist
Chroma—3 or 4
Reaction—slightly alkaline to strongly alkaline

Bonolden Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Alluvial fans and alluvial flats
Parent material: Alluvium derived from limestone, sandstone, and quartzite
Slope: 0 to 5 percent
Elevation: 4,800 to 5,600 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 110 to 150 days

Taxonomic class: Fine-silty, mixed, mesic Pachic Calcixerolls

Typical Pedon

Ap—0 to 7 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak coarse subangular blocky structure parting to weak fine and medium subangular blocky; soft, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; slightly effervescent; 16 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—7 to 22 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate coarse subangular blocky structure parting to moderate fine subangular blocky; hard, friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium roots; many very fine and fine tubular pores and few medium and coarse tubular pores; slightly effervescent; 14 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); gradual wavy boundary.

Bw—22 to 36 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and very fine roots; many very fine and fine tubular pores and few medium tubular pores; slightly effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); gradual irregular boundary.

Bk—36 to 60 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry; moderate coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and fine tubular pores and few medium tubular pores; strongly effervescent; 25 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and veins; moderately alkaline (pH 8.2).

Typical Pedon Location

Map unit in which located: Bonolden silt loam, 0 to 5 percent slopes
Location in survey area: 1,300 feet south and 4,100 feet east of the northwest corner of sec. 26, R. 4 W., T. 19 S.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—27 to 60 inches
Thickness of mollic epipedon—25 to 36 inches

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Reaction—slightly alkaline or moderately alkaline

Bw horizon:
Value—5 or 6 dry, 3 or 4 moist
Chroma—2 or 3
Texture—silt loam or loam
Reaction—slightly alkaline or moderately alkaline

Bk horizon:
Hue—10YR or 7.5YR
Value—5 or 6 dry, 3 or 4 moist
Chroma—3 or 4
Texture—loam or silt loam

Borvant Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Moderate
Landscape position: Fan remnants, hillslopes, and mountain slopes
Parent material: Colluvium and alluvium derived from sandstone and limestone
Slope: 2 to 40 percent
Elevation: 4,800 to 6,500 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Loamy-skeletal, carbonatic, mesic, shallow Petrocalcic Palexerolls

Typical Pedon

O—2 inches to 0; mat of decaying leaves, twigs, and conifer needles.

A—0 to 7 inches; very dark brown (10YR 2/2) very gravelly loam, dark brown (10YR 4/3) dry; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; common fine to coarse roots; 30 percent gravel; strongly effervescent; 35 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—7 to 14 inches; dark grayish brown (10YR 4/2) extremely gravelly loam, light brownish gray (10YR 6/2) dry; weak fine subangular blocky structure parting to weak fine granular; soft, very friable, slightly sticky and nonplastic; common fine to coarse roots; 65 percent gravel; violently effervescent; 50 percent calcium carbonate equivalent; carbonates are disseminated and in coatings on rock fragments; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bkm—14 inches; indurated calcium carbonate hardpan; upper layer white (10YR 8/2) 1/8 to 1/2 inch thick and lower layers very pale brown (10YR 8/3) dry; roots matted on surface of hardpan.

Typical Pedon Location

Map unit in which located: Borvant very gravelly loam, 15 to 40 percent slopes
Location in survey area: 200 feet south and 10 feet west of the northeast corner of sec. 1, T. 20 S., R. 2 W.

Range in Characteristics

Profile:
Depth to hardpan—10 to 20 inches
Thickness of mollic epipedon—7 to 14 inches

Particle-size control section:
Content of clay—12 to 18 percent
Content of rock fragments—40 to 65 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3

Bk horizon:
Value—6 to 8 dry, 4 to 6 moist
Chroma—2 to 4
Texture—very gravelly loam or extremely gravelly loam
Content of gravel—40 to 65 percent
Reaction—moderately alkaline or strongly alkaline

Boxelder Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Lake plains and terraces

Parent material: Alluvium derived from calcareous sediment with diatomaceous deposits
Slope: 0 to 5 percent
Elevation: 4,600 to 5,000 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 48 to 54 degrees F
Frost-free period: 110 to 160 days

Taxonomic class: Fine-loamy, carbonatic, mesic Xeric Haplocalcids

Typical Pedon

Ap—0 to 5 inches; dark brown (10YR 4/3) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure parting to weak fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine vesicular pores; strongly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw—5 to 18 inches; dark brown (10YR 4/3) loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; strongly effervescent; 35 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

Bk—18 to 27 inches; brown (10YR 5/3) loam, very pale brown (10YR 7/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; violently effervescent; 45 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses and filaments; strongly alkaline (pH 9.0); clear smooth boundary.

2C—27 to 60 inches; light gray (10YR 7/2) silt loam (diatomaceous material), white (10YR 8/1) dry; massive; very hard, friable, slightly sticky and slightly plastic; strongly effervescent; 50 percent calcium carbonate equivalent; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Boxelder silt loam, 0 to 2 percent slopes
Location in survey area: 1,800 feet west and 200 feet north of the southeast corner of sec. 34, T. 21 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—15 to 20 inches
Depth to diatomaceous material—25 to 35 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—0 to 15 percent

A horizon:
Value—6 or 7 dry, 3 or 4 moist
Chroma—2 to 4
Texture—silt loam or loam
Reaction—slightly alkaline or moderately alkaline

Bw horizon:
Value—6 or 7 dry, 3 or 4 moist
Chroma—2 to 4
Texture—loam, silt loam, or very fine sandy loam

Bk horizon:
Hue—10YR or 2.5Y
Value—7 or 8 dry, 5 to 7 moist
Chroma—1 to 3
Texture—loam, silt loam, or very fine sandy loam
Reaction—moderately alkaline or strongly alkaline

2C horizon:
Hue—10YR or 2.5YR
Value—7 or 8 dry, 6 or 7 moist
Chroma—1 to 3
Texture—loam, silt loam, or very fine sandy loam
Reaction—moderately alkaline or strongly alkaline

Calita Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Alluvial fans and alluvial flats
Parent material: Alluvium derived from sandstone, quartzite, and limestone
Slope: 0 to 8 percent
Elevation: 4,800 to 6,000 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 47 to 52 degrees F
Frost-free period: 110 to 150 days

Taxonomic class: Fine-loamy, mixed, mesic Typic Calcixerolls

Typical Pedon

A1—0 to 2 inches; dark brown (10YR 3/3) very fine sandy loam, brown (10YR 5/3) dry; weak thin platy structure; soft, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine vesicular pores; very slightly effervescent; 6 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—2 to 8 inches; dark brown (10YR 3/3) very fine sandy loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine tubular pores; 5 percent gravel; very slightly effervescent; 6 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

Bw—8 to 16 inches; dark brown (7.5YR 3/4) silt loam, brown (7.5YR 5/4) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; 5 percent gravel; very slightly effervescent; strongly alkaline (pH 8.6); 8 percent calcium carbonate equivalent; clear smooth boundary.

Bk1—16 to 32 inches; dark brown (7.5YR 4/4) loam, brown (7.5YR 5/4) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; 5 percent gravel; strongly effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in common soft masses and filaments; strongly alkaline (pH 8.6); clear smooth boundary.

Bk2—32 to 60 inches; dark brown (7.5YR 4/4) loam, brown (7.5YR 5/4) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; 5 percent gravel; strongly effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in common soft masses and filaments; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Calita-Erda complex, 2 to 8 percent slopes

Location in survey area: 100 feet east and 100 feet south of the northeast corner of sec. 27, T. 19 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—15 to 25 inches
Thickness of mollic epipedon—7 to 16 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—0 to 5 percent

A horizon:
Hue—7.5YR or 10YR
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Content of gravel—0 to 5 percent

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5 dry, 3 or 4 moist
Chroma—3 or 4
Content of gravel—0 to 5 percent

Bk1 horizon:
Hue—7.5YR or 10YR
Value—5 to 7 dry, 4 or 5 moist
Chroma—3 or 4
Content of gravel—0 to 5 percent

Bk2 horizon, and C horizon, where present:
Hue—7.5YR or 10YR
Value—5 to 7 dry, 4 or 5 moist
Chroma—3 or 4
Content of gravel—0 to 5 percent

Cessna Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Stream terraces and alluvial fans
Parent material: Alluvium derived from sedimentary rock
Slope: 0 to 5 percent
Elevation: 4,900 to 5,300 feet
Average annual precipitation: 12 to 14 inches
Average annual air temperature: 49 to 52 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Fine-loamy, mixed (calcareous), mesic Typic Xerofluvents

Typical Pedon

A1—0 to 3 inches; dark yellowish brown (10YR 3/4) loam, pale brown (10YR 6/3) dry; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine vesicular pores; strongly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated;

moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—3 to 10 inches; dark yellowish brown (10YR 3/4) loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine tubular pores; strongly effervescent; 27 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); gradual smooth boundary.

Bw1—10 to 27 inches; dark brown (10YR 4/3) loam, brown (10YR 5/4) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine tubular pores; strongly effervescent; 30 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); clear smooth boundary.

Bw2—27 to 60 inches; dark brown (10YR 4/3) loam, brown (10YR 5/4) dry; weak fine subangular blocky structure; soft, friable, nonsticky and nonplastic; common very fine and fine roots; common very fine and fine tubular pores; strongly effervescent; 29 percent calcium carbonate equivalent; moderately alkaline (pH 8.2).

Typical Pedon Location

Map unit in which located: Cessna loam, 0 to 5 percent slopes

Location in survey area: 2,000 feet west and 1,600 feet south of the northeast corner of sec. 18, T. 21 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—0 to 15 percent

A horizon:
Value—5 or 6 dry, 2 to 4 moist
Chroma—2 to 4
Content of gravel—0 to 15 percent

Bw horizon, and C horizon, where present:
Hue—7.5YR or 10YR
Value—5 to 7 dry, 4 to 6 moist
Chroma—2 to 4
Texture—loam or silt loam
Content of gravel—0 to 15 percent

Checkett Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Moderate
Landscape position: Low hills
Parent material: Colluvium and residuum derived from quartzite
Slope: 8 to 35 percent
Elevation: 5,300 to 5,900 feet
Average annual precipitation: 10 to 12 inches
Average annual air temperature: 45 to 49 degrees F
Frost-free period: 100 to 120 days

Taxonomic class: Loamy-skeletal, mixed, mesic Lithic Xeric Haplargids

Typical Pedon

A—0 to 4 inches; very dark grayish brown (10YR 3/2) very stony loam, yellowish brown (10YR 5/4) dry; moderate very fine subangular blocky structure parting to moderate thin and medium platy; soft, very friable, slightly sticky and slightly plastic; common very fine roots and few fine roots; many very fine and common fine tubular pores; 18 percent stones, 15 percent gravel, and 10 percent cobbles; slightly effervescent; less than 5 percent calcium carbonate equivalent; carbonates are disseminated; slightly alkaline (pH 7.8); clear smooth boundary.

Bt1—4 to 8 inches; dark brown (10YR 3/3) very cobbly loam, yellowish brown (10YR 5/4) dry; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and slightly plastic; common very fine roots and few fine roots; common very fine and fine tubular pores; few thin clay films in pores; 15 percent gravel and 20 percent cobbles; slightly effervescent; less than 5 percent calcium carbonate equivalent; carbonates are disseminated; slightly alkaline (pH 7.8); gradual smooth boundary.

Bt2—8 to 16 inches; dark yellowish brown (10YR 4/4) very cobbly clay loam, yellowish brown (10YR 5/4) dry; moderate fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine roots; common very fine and few fine tubular pores; common thin clay films on faces of peds and in pores; 25 percent gravel and 30 percent cobbles; slightly effervescent; less than 5 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt wavy boundary.

R—16 inches; quartzite.

Typical Pedon Location

Map unit in which located: Checkett-Amtoft complex, 8 to 35 percent slopes
Location in survey area: 2,300 feet west and 2,800 feet north of the southeast corner of sec. 30, T. 17 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—14 to 20 inches
Depth to argillic horizon—4 to 6 inches

Particle-size control section:
Content of clay—18 to 35 percent
Content of rock fragments—35 to 60 percent

A horizon:
Value—5 to 7 dry, 3 or 4 moist
Chroma—2 to 4
Content of gravel—5 to 25 percent
Content of cobbles—10 to 15 percent
Content of stones—10 to 20 percent

Bt horizon:
Value—5 to 7 dry, 3 to 5 moist
Chroma—3 or 4
Texture—very cobbly clay loam or very cobbly loam
Content of rock fragments—35 to 60 percent
Reaction—slightly alkaline or moderately alkaline

Church Springs Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Fan remnants and hillslopes
Parent material: Alluvium derived from sandstone and limestone
Slope: 3 to 10 percent
Elevation: 6,500 to 7,500 feet
Average annual precipitation: 14 to 16 inches
Average annual air temperature: 40 to 43 degrees F
Frost-free period: 70 to 90 days

Taxonomic class: Fine-silty, mixed, frigid Typic Calcixerolls

Typical Pedon

A1—0 to 4 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium roots; few very fine vesicular pores; 5 percent gravel; slightly effervescent; 12 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—4 to 10 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; common fine and medium roots; few very fine tubular pores; slightly effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear wavy boundary.

Bt—10 to 17 inches; dark brown (10YR 3/3) silty clay loam, brown (10YR 5/3) dry; moderate fine and medium subangular blocky structure; very hard, firm, sticky and plastic; common fine and medium roots; few very fine tubular pores; few thin clay films on faces of peds; moderately effervescent; 21 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); gradual wavy boundary.

Btk1—17 to 27 inches; dark brown (10YR 4/3) silty clay loam, brown (10YR 5/3) dry; moderate fine and medium subangular blocky structure; very hard, firm, sticky and plastic; few fine roots; common very fine and fine tubular pores; few thin clay films on faces of peds; violently effervescent; 35 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in few masses and veins; moderately alkaline (pH 8.4); gradual wavy boundary.

Btk2—27 to 38 inches; dark brown (10YR 4/3) silty clay loam, very pale brown (10YR 7/3) dry; moderate fine and medium subangular blocky structure; very hard, firm, sticky and plastic; few fine roots; common very fine tubular pores; few thin clay films on faces of peds; violently effervescent; 30 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in few masses and veins; moderately alkaline (pH 8.4); gradual wavy boundary.

Btk3—38 to 60 inches; dark brown (10YR 4/3) silty clay loam, very pale brown (10YR 7/3) dry; weak medium and coarse subangular blocky structure; very hard, firm, sticky and plastic; few fine roots; few very fine tubular pores; few thin clay films on faces of peds; strongly effervescent; 25 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in common veins; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Church Springs silt loam, 3 to 10 percent slopes

Location in survey area: 2,500 feet east and 2,100 feet south of the northwest corner of sec. 12, T. 19 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to argillic horizon—4 to 14 inches
Depth to calcic horizon—11 to 20 inches
Thickness of mollic epipedon—10 to 17 inches

Particle-size control section:
Content of clay—27 to 35 percent
Content of rock fragments—0 to 10 percent

A horizon:
Hue—10YR or 7.5YR
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Content of gravel—0 to 15 percent

Bt horizon:
Hue—10YR or 7.5YR
Value—5 to 7 dry, 3 to 5 moist
Chroma—3 or 4
Content of gravel—0 to 10 percent

Btk horizon:
Hue—10YR or 7.5YR
Value—5 to 7 dry, 4 to 6 moist
Chroma—3 to 5
Content of gravel—0 to 15 percent
Reaction—moderately alkaline or strongly alkaline

Cloyd Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Moderate
Landscape position: Ridges and hillslopes
Parent material: Residuum derived from travertine
Slope: 5 to 20 percent
Elevation: 4,800 to 5,000 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Loamy, carbonatic, mesic Lithic Xeric Haplocalcids

Typical Pedon

A1—0 to 3 inches; dark brown (10YR 4/3) gravelly loam, pale brown (10YR 6/3) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine vesicular pores; 15 percent gravel; slightly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—3 to 7 inches; dark brown (10YR 4/3) cobbly loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 25 percent cobbles; strongly effervescent; 26 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

Bk—7 to 15 inches; yellowish brown (10YR 5/4) gravelly loam, light yellowish brown (10YR 6/4) dry; weak fine subangular blocky structure parting to massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 30 percent gravel; strongly effervescent; 47 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

R—15 inches; travertine limestone.

Typical Pedon Location

Map unit in which located: Cloyd-Rock outcrop complex, 5 to 20 percent slopes
Location in survey area: 1,500 feet north and 200 feet east of the southwest corner of sec. 36, T. 22 S., R. 6 W.

Range in Characteristics

Profile:
Depth to bedrock—15 to 20 inches
Depth to calcic horizon—6 to 11 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—15 to 30 percent
Calcium carbonate equivalent—40 to 50 percent

A horizon:
Value—5 or 6 dry, 3 or 4 moist
Chroma—3 or 4
Content of rock fragments—15 to 20 percent

Bk horizon:
Value—5 or 6 dry, 3 to 5 moist
Chroma—3 or 4
Texture—cobbly loam or gravelly loam
Content of rock fragments—20 to 30 percent
Reaction—moderately alkaline or strongly alkaline
Calcium carbonate equivalent—40 to 50 percent

Collard Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate in the upper part and rapid in the lower part
Landscape position: Alluvial fans and fan remnants
Parent material: Alluvium derived from quartzite, sandstone, and conglomerate
Slope: 2 to 15 percent
Elevation: 4,800 to 6,200 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Loamy-skeletal, mixed, mesic Typic Argixerolls

Typical Pedon

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) gravelly loam, brown (10YR 5/3) dry; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; many very fine roots; few very fine vesicular pores; 20 percent gravel; neutral (pH 6.6); abrupt smooth boundary.

A2—4 to 9 inches; very dark grayish brown (10YR 3/2) gravelly loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine tubular pores; 20 percent gravel; neutral (pH 6.8); clear smooth boundary.

Bt—9 to 17 inches; dark brown (10YR 3/3) very cobbly clay loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; common very fine tubular pores; common thin clay films on faces of peds and in root channels; 20 percent gravel and 25 percent cobbles; neutral (pH 7.0); clear smooth boundary.

C1—17 to 28 inches; dark yellowish brown (10YR 4/4) very cobbly sandy loam, light yellowish brown (10YR 6/4) dry; massive; soft, friable, nonsticky and nonplastic; common very fine and fine roots; neutral (pH 7.0); 25 percent gravel, 30 percent cobbles, and 5 percent stones; gradual smooth boundary.

C2—28 to 60 inches; dark yellowish brown (10YR 4/4) very cobbly loamy sand, light yellowish brown (10YR 6/4) dry; single grain; soft, friable, nonsticky and nonplastic; few very fine and fine roots; 20 percent gravel, 35 percent cobbles, and 5 percent stones; neutral (pH 7.0).

Typical Pedon Location

Map unit in which located: Collard gravelly loam, 2 to 5 percent slopes
Location in survey area: 900 feet west and 400 feet north of the southeast corner of sec. 27, T. 20 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to argillic horizon—9 to 16 inches
Thickness of mollic epipedon—10 to 17 inches

Particle-size control section:
Content of clay—18 to 35 percent
Content of rock fragments—35 to 60 percent

A horizon:
Hue—7.5YR or 10YR
Value—4 or 5 dry, 3 or 4 moist
Chroma—2 or 3
Texture—gravelly loam or extremely stony silt loam
Reaction—neutral or slightly alkaline

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5 dry, 3 or 4 moist
Chroma—3 or 4
Texture—very cobbly clay loam, very gravelly loam, or very gravelly sandy clay loam
Content of rock fragments—35 to 60 percent
Reaction—neutral or slightly alkaline

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6 dry, 3 or 4 moist
Chroma—4 to 6
Texture—extremely stony sandy loam, very cobbly loamy sand, or very cobbly sandy loam
Content of rock fragments—35 to 80 percent
Reaction—neutral or slightly alkaline

Curdli Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Lake plains
Parent material: Lacustrine deposits
Slope: 0 to 2 percent
Elevation: 4,600 to 4,700 feet

Average annual precipitation: 6 to 8 inches
Average annual air temperature: 49 to 52 degrees F
Frost-free period: 115 to 140 days

Taxonomic class: Fine-silty, carbonatic, mesic Typic Haplocalcids

Typical Pedon

A—0 to 10 inches; brown (10YR 5/3) loam, very pale brown (10YR 7/3) dry; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine vesicular pores; strongly effervescent; 13 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk1—10 to 15 inches; pale brown (10YR 6/3) loam, very pale brown (10YR 8/3) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; 30 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear wavy boundary.

Bk2—15 to 22 inches; pale brown (10YR 6/3) silt loam, very pale brown (10YR 8/3) dry; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; strongly effervescent; 40 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); clear smooth boundary.

Bk3—22 to 28 inches; light gray (10YR 7/2) silt loam, white (10YR 8/2) dry; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; 40 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses and filaments; strongly alkaline (pH 8.8); gradual smooth boundary.

Bk4—28 to 37 inches; light gray (10YR 7/2) silt loam, white (10YR 8/2) dry; moderate medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; violently effervescent; 49 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in common nodules, soft masses, and filaments; strongly alkaline (pH 9.0); clear wavy boundary.

Bk5—37 to 48 inches; white (10YR 8/2) silt loam, white (10YR 8/2) dry; moderate fine subangular blocky structure; hard, firm, sticky and slightly plastic; violently effervescent; 48 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses and filaments; strongly alkaline (pH 8.6); gradual wavy boundary.

Bk6—48 to 60 inches; white (10YR 8/1) silt loam, white (10YR 8/1) dry; massive; slightly hard, firm, sticky and slightly plastic; strongly effervescent; 55 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in common nodules; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Curdli loam, 0 to 2 percent slopes
Location in survey area: 400 feet east and 1,800 feet south of the northwest corner of sec. 18, T. 18 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—4 to 10 inches

Particle-size control section:
Content of clay—18 to 27 percent
Calcium carbonate equivalent—40 to 50 percent

A horizon:
Hue—2.5Y or 10YR
Value—7 or 8 dry, 5 or 6 moist
Chroma—2 or 3

Bk horizon:
Value—7 or 8 dry, 6 to 8 moist
Chroma—1 to 3
Texture—silt loam or loam
Reaction—moderately alkaline or strongly alkaline
Calcium carbonate equivalent—30 to 55 percent

Current Spring Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landscape position: Hillslopes and mountain slopes
Parent material: Alluvium and colluvium derived from quartzite, sandstone, and limestone
Slope: 5 to 50 percent
Elevation: 5,400 to 6,500 feet
Average annual precipitation: 14 to 16 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Clayey-skeletal, montmorillonitic, mesic Typic Argixerolls

Typical Pedon

A1—0 to 5 inches; very dark grayish brown (10YR 3/2) gravelly loam, grayish brown (10YR 5/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine vesicular pores; 25 percent gravel; neutral (pH 6.8); abrupt smooth boundary.

A2—5 to 13 inches; dark brown (7.5YR 3/2) gravelly clay loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine tubular pores; 35 percent gravel; neutral (pH 6.8); clear smooth boundary.

Bt1—13 to 24 inches; brown (7.5YR 4/4) very gravelly clay loam, brown (7.5YR 5/4) dry; moderate fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots and few medium roots; few very fine tubular pores; few thin clay films on faces of peds; 35 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bt2—24 to 41 inches; brown (7.5YR 4/4) very gravelly clay, light brown (7.5YR 6/4) dry; moderate medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; few very fine tubular pores; common thin clay films on faces of peds; 40 percent gravel and 10 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bt3—41 to 60 inches; brown (7.5YR 4/4) very gravelly clay loam, light brown (7.5YR 6/4) dry; weak fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine tubular pores; few thin clay films on faces of peds; 40 percent gravel and 10 percent cobbles; neutral (pH 7.2).

Typical Pedon Location

Map unit in which located: Current Spring-Maple Hollow complex, 5 to 15 percent slopes

Location in survey area: 2,000 feet east and 1,500 feet north of the southwest corner of sec. 10, T. 20 S., R. 3 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to argillic horizon—10 to 20 inches
Thickness of mollic epipedon—10 to 18 inches

Particle-size control section:
Content of clay—35 to 50 percent
Content of rock fragments—35 to 60 percent

A horizon:
Hue—10YR or 7.5YR
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Content of rock fragments—15 to 35 percent

Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6 dry, 3 to 5 moist
Chroma—3 or 4
Texture—very gravelly clay loam, very gravelly clay, or very cobbly clay
Content of rock fragments—35 to 60 percent
Reaction—neutral or slightly alkaline

Deseret Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow
Landscape position: Lake terraces
Parent material: Alluvium and lacustrine deposits derived from limestone and sandstone
Slope: 0 to 1 percent
Elevation: 4,600 to 4,800 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 49 to 52 degrees F
Frost-free period: 115 to 130 days

Taxonomic class: Fine-silty, mixed, mesic Xeric Haplogypsids

Typical Pedon

A1—0 to 4 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine vesicular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

By1—4 to 8 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine vesicular pores; few fine gypsum crystals and very few patchy distinct coatings of gypsum on faces of peds; 5 percent gypsum; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

By2—8 to 16 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium roots; few very fine tubular pores; few fine gypsum crystals and very few patchy distinct coatings of gypsum on faces of peds; 5 percent gypsum; very strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

By3—16 to 24 inches; pale brown (10YR 6/3) silt loam, very pale brown (10YR 7/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium roots; few very fine tubular pores; few fine gypsum crystals and few discontinuous distinct coatings of gypsum on faces of peds; 10 percent gypsum; very strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

By4—24 to 30 inches; light brownish gray (10YR 6/2) silty clay loam, white (10YR 8/2) dry; weak fine subangular blocky structure parting to massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; few fine gypsum crystals and few discontinuous distinct coatings of gypsum on faces of peds; 15 percent gypsum; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

By5—30 to 60 inches; pale brown (10YR 6/3) silty clay loam, very pale brown (10YR 8/3) dry; massive; very hard, friable, slightly sticky and slightly plastic; common fine gypsum crystals and common discontinuous distinct coatings of gypsum on faces of peds; 20 percent gypsum; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0).

Typical Pedon Location

Map unit in which located: Deseret silt loam, 0 to 1 percent slopes
Location in survey area: 400 feet east and 150 feet south of the northwest corner of sec. 15, T. 20 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to gypsic horizon—4 to 20 inches

Particle-size control section:
Content of clay—18 to 35 percent

A horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 or 3
Content of gypsum—1 to 10 percent

By horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 or 3
Texture—silt loam, loam, or silty clay loam
Content of gypsum—5 to 20 percent

Donnardo Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Alluvial fans and fan remnants
Parent material: Alluvium derived from limestone and sandstone
Slope: 2 to 15 percent
Elevation: 4,800 to 6,500 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Loamy-skeletal, mixed, mesic Typic Calcixerolls

Typical Pedon

A1—0 to 3 inches; very dark grayish brown (10YR 3/2) very stony loam, brown (10YR 5/3) dry; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; many very fine roots and few fine and medium roots; few very fine and medium tubular pores and common fine tubular pores; 15 percent stones, 15 percent gravel, and 15 percent cobbles; very slightly effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; slightly alkaline (pH 7.8); clear wavy boundary.

A2—3 to 8 inches; dark brown (10YR 3/3) very stony loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots and few fine and medium roots; common very fine tubular pores, many fine tubular pores, and few medium tubular pores; 15 percent stones, 15 percent gravel, and 15 percent cobbles; slightly effervescent; 11 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); gradual wavy boundary.

AB—8 to 16 inches; dark brown (10YR 4/3) very gravelly loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores, many fine tubular pores, and few medium tubular pores; 35 percent gravel and 5 percent cobbles; strongly effervescent; 28 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear wavy boundary.

Bk1—16 to 24 inches; pale brown (10YR 6/3) very gravelly loam, very pale brown (10YR 7/3) dry; weak coarse subangular blocky structure; extremely hard, firm, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 30 percent gravel and 10 percent cobbles; strongly effervescent; 40 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses and concretions on underside of rock fragments; strongly alkaline (pH 8.6); clear wavy boundary.

Bk2—24 to 35 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, very pale brown (10YR 7/3) dry; single grain; loose, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 70 percent gravel; strongly effervescent; 29 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and concretions on underside of rock fragments; strongly alkaline (pH 8.6); clear wavy boundary.

Bk3—35 to 60 inches; pale brown (10YR 6/3) very cobbly loam, very pale brown (10YR 7/3) dry; massive; slightly hard, firm, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 20 percent gravel and 30 percent cobbles; strongly effervescent; 31 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in concretions on rock fragments; strongly alkaline (pH 8.8).

Typical Pedon Location

Map unit in which located: Donnardo very stony loam, 2 to 15 percent slopes
Location in survey area: 300 feet west and 500 feet south of the northeast corner of sec. 35, T. 17 S., R. 3 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—8 to 19 inches
Thickness of mollic epipedon—8 to 12 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—35 to 70 percent

A horizon:
Hue—7.5YR or 10YR
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Texture—very stony loam, gravelly silt loam, or gravelly fine sandy loam
Content of rock fragments—15 to 45 percent
Reaction—slightly alkaline or moderately alkaline

Bk horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 to 6 moist
Chroma—3 or 4
Texture—very gravelly loam, gravelly fine sandy loam, very cobbly loam, very gravelly sandy loam, or extremely gravelly sandy loam
Content of rock fragments—35 to 70 percent
Reaction—moderately alkaline or strongly alkaline
Calcium carbonate equivalent—15 to 40 percent

Erda Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Alluvial fans and alluvial flats
Parent material: Alluvium derived from sandstone, quartzite, and limestone
Slope: 0 to 8 percent
Elevation: 4,800 to 6,000 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 110 to 150 days

Taxonomic class: Fine-silty, mixed, mesic Typic Calcixerolls

Typical Pedon

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots and few coarse roots; many very fine, fine, and medium tubular pores; slightly effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—6 to 18 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and common medium roots; many very fine and fine tubular pores and few medium tubular pores; slightly effervescent; 11 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

Bw—18 to 23 inches; dark yellowish brown (10YR 3/4) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and common medium roots; many very fine and fine tubular pores and few medium tubular pores; strongly effervescent; 11 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

Bk—23 to 38 inches; dark yellowish brown (10YR 3/4) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots and common fine roots; many very fine and fine tubular pores; 5 percent gravel; strongly effervescent; 18 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in common filaments and masses; moderately alkaline (pH 8.4); gradual smooth boundary.

BC—38 to 60 inches; dark yellowish brown (10YR 4/4) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine and fine tubular pores; 5 percent gravel; strongly effervescent; 14 percent calcium carbonate equivalent; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Calita-Erda complex, 0 to 2 percent slopes

Location in survey area: 3,500 feet east and 2,000 feet north of the southwest corner of sec. 24, T. 18 S., R. 3 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—9 to 32 inches
Thickness of mollic epipedon—10 to 18 inches

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3

Bw and Bk horizons:
Value—6 or 7 dry, 3 to 5 moist
Chroma—2 to 4

BC horizon, and C horizon, where present:
Value—6 to 8 dry, 4 to 6 moist
Chroma—2 to 4

Escalante Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate or moderately rapid
Landscape position: Fan remnants, lake terraces, lake plains, and alluvial flats
Parent material: Alluvium derived from sedimentary rock
Slope: 0 to 15 percent
Elevation: 4,600 to 6,200 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Coarse-loamy, mixed, mesic Xeric Haplocalcids

Typical Pedon

A1—0 to 7 inches; brown (10YR 5/3) sandy loam, pale brown (10YR 6/3) dry; weak fine granular structure parting to weak fine subangular blocky; soft, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine and fine pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—7 to 19 inches; brown (10YR 5/3) sandy loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and fine roots; few very fine and fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary

Bk1—19 to 33 inches; brown (10YR 5/3) fine sandy loam, very pale brown (10YR 7/3) dry; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine and fine roots; few very fine and fine tubular pores; violently effervescent; carbonates are disseminated and are discontinuously weakly cemented; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bk2—33 to 41 inches; brown (10YR 5/3) fine sandy loam, very pale brown (10YR 7/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; violently effervescent; carbonates are disseminated and are discontinuously weakly cemented; strongly alkaline (pH 8.2); abrupt smooth boundary.

C1—41 to 44 inches; very dark grayish brown (10YR 3/2) fine sandy loam, yellowish brown (10YR 5/4) dry; single grain; loose, nonsticky and nonplastic; strongly effervescent; carbonates are disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.

C2—44 to 46 inches; light brownish gray (10YR 6/2) silt loam, white (10YR 8/1) dry; massive; very hard, firm, slightly sticky and slightly plastic, strongly effervescent; weakly cemented with calcium carbonate; strongly alkaline (pH 8.6); abrupt smooth boundary.

C3—46 to 51 inches; light brownish gray (10YR 6/2) loamy fine sand, light gray (10YR 7/2) dry; massive; single grain; loose, nonsticky and nonplastic; very slightly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

C4—51 to 60 inches; light brownish gray (2.5Y 6/2) silt loam, white (2.5Y 8/2) dry; massive; slightly hard, firm, slightly sticky and slightly plastic; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2).

Typical Pedon Location

Map unit in which located: Escalante sandy loam, 0 to 2 percent slopes

Location in survey area: 1,200 feet south and 900 feet east of the northeast corner of sec. 17, T. 21 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—8 to 21 inches

Particle-size control section:
Content of clay—10 to 18 percent

A horizon:
Value—6 dry, 4 or 5 moist
Chroma—3 or 4
Texture—fine sandy loam, sandy loam, or very gravelly sandy loam
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Value—6 or 7 dry, 5 or 6 moist
Chroma—2 to 4
Texture—fine sandy loam, loam, or sandy loam
Reaction—moderately alkaline or strongly alkaline

C horizon:
Value—5 to 8 dry, 3 to 6 moist
Chroma—1 to 4
Texture—fine sandy loam, sandy loam, loam, silt loam, or loamy fine sand
Content of gravel—0 to 15 percent
Reaction—moderately alkaline or strongly alkaline

Firmage Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Alluvial fans and fan remnants
Parent material: Alluvium derived from conglomerate and limestone
Slope: 2 to 8 percent
Elevation: 4,900 to 5,600 feet
Average annual precipitation: 10 to 12 inches
Average annual air temperature: 49 to 52 degrees F
Frost-free period: 120 to 150 days

Taxonomic class: Fine-loamy, mixed, mesic Xeric Haplocalcids

Typical Pedon

A—0 to 3 inches; very dark grayish brown (10YR 3/2) loam, yellowish brown (10YR 5/4) dry; weak medium platy structure parting to moderate fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine roots; 5 percent gravel; slightly effervescent; 6 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bw1—3 to 9 inches; dark brown (10YR 4/3) clay loam, light yellowish brown (10YR 6/4) dry; weak coarse subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine roots and few fine roots; common very fine tubular pores and few fine tubular pores; 5 percent gravel; slightly effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

Bw2—9 to 16 inches; yellowish brown (10YR 5/4) clay loam, very pale brown (10YR 7/4) dry; weak medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine roots and few fine roots; many very fine tubular pores and few fine and medium tubular pores; 5 percent gravel; slightly effervescent; 14 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

Bk1—16 to 25 inches; yellowish brown (10YR 5/4) cobbly loam, very pale brown (10YR 7/4) dry; massive; very hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; few fine and medium tubular pores; 5 percent gravel and 10 percent cobbles; strongly effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in coatings on rock fragments; strongly alkaline (pH 8.4); gradual smooth boundary.

Bk2—25 to 43 inches; light yellowish brown (10YR 6/4) stony loam, very pale brown (10YR 7/4) dry; massive; hard, firm, slightly sticky and slightly plastic; few very fine roots; 5 percent gravel, 10 percent cobbles, and 5 percent stones; strongly effervescent; 29 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in coatings on rock fragments; moderately alkaline (pH 8.2); gradual smooth boundary.

2C—43 to 60 inches; very pale brown (10YR 7/3) very cobbly sandy clay loam, white (10YR 8/2) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; 30 percent gravel, 20 percent cobbles, and 5 percent stones; strongly effervescent; 26 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in coatings on rock fragments; moderately alkaline (pH 8.0).

Typical Pedon Location

Map unit in which located: Firmage loam, 2 to 8 percent slopes

Location in survey area: 2,600 feet south and 1,500 feet west of the northeast corner of sec. 3, T. 16 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—7 to 16 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—15 to 35 percent

A horizon:
Value—5 or 6 dry, 3 or 4 moist
Chroma—2 to 4
Texture—clay loam or loam
Content of gravel—0 to 15 percent
Effervescence—very slight or slight

Bw horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—3 or 4
Texture—clay loam or loam
Content of gravel—0 to 15 percent
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Value—7 or 8 dry, 5 or 6 moist
Chroma—2 to 4
Texture—stony clay loam, cobbly clay loam, cobbly loam, or stony loam
Content of rock fragments—15 to 20 percent
Reaction—moderately alkaline or strongly alkaline

2C horizon:
Value—7 or 8 dry, 6 or 7 moist

Chroma—2 or 3
Content of rock fragments—35 to 60 percent
Reaction—moderately alkaline or strongly alkaline

Freedom Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Alluvial flats, fan remnants, and lake terraces
Parent material: Alluvium derived from limestone and sandstone
Slope: 0 to 5 percent
Elevation: 4,800 to 5,600 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Fine-silty, mixed, mesic Xeric Haplocalcids

Typical Pedon

Ap—0 to 5 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine vesicular pores; slightly effervescent; 7 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—5 to 12 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; strongly effervescent; 17 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—12 to 26 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; 27 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses; moderately alkaline (pH 8.4); clear smooth boundary.

Bk2—26 to 36 inches; brown (10YR 5/3) silty clay loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine tubular pores; strongly effervescent; 30 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses; strongly alkaline (pH 8.6); clear smooth boundary.

BC—36 to 60 inches; pale brown (10YR 6/3) silty clay loam, very pale brown (10YR 7/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine tubular pores; strongly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Freedom silt loam, 0 to 2 percent slopes
Location in survey area: 1,200 feet east and 1,400 feet north of the southwest corner of sec. 20, T. 18 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—7 to 13 inches

Particle-size control section:
Content of clay—18 to 35 percent

A horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 or 3
Content of gravel—0 to 5 percent
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Value—6 to 8 dry, 4 or 5 moist
Chroma—2 to 4
Texture—silt loam or silty clay loam
Reaction—moderately alkaline or strongly alkaline

BC horizon, and C horizon, where present:
Value—6 to 8 dry, 4 to 6 moist
Chroma—2 to 4
Texture—silty clay loam or silt loam

Genola Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Terraces, alluvial flats, and alluvial fans

Parent material: Alluvium derived from limestone, sandstone, and shale
Slope: 0 to 5 percent
Elevation: 4,700 to 5,100 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 150 days

Taxonomic class: Fine-silty, mixed (calcareous), mesic Xeric Torrifluvents

Typical Pedon

A1—0 to 3 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine vesicular pores; very slightly effervescent; 16 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—3 to 11 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine tubular pores; slightly effervescent; 24 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

C1—11 to 24 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; common very fine tubular pores; slightly effervescent; 30 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

C2—24 to 37 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; slightly effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

C3—37 to 51 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; slightly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); gradual smooth boundary.

C4—51 to 60 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; 5 percent gravel; slightly effervescent; 28 percent calcium carbonate equivalent; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Genola silt loam, 0 to 2 percent slopes
Location in survey area: 100 feet west and 1,400 feet south of the northeast corner of sec. 11, T. 15 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Hue—7.5YR or 10YR
Value—5 or 6 dry, 4 or 5 moist
Chroma—2 or 3

C horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 to 4
Texture—silt loam or loam
Reaction—moderately alkaline or strongly alkaline

Green River Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Landscape position: Flood plains
Parent material: Alluvium derived from sandstone, quartzite, and limestone
Slope: 0 to 2 percent
Elevation: 4,700 to 4,800 feet
Average annual precipitation: 7 to 12 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Coarse-loamy, mixed (calcareous), mesic Oxyaquic Torrifluvents

Typical Pedon

A1—0 to 3 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; weak thin platy structure parting to weak fine granular; hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine vesicular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.

A2—3 to 9 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated; strongly alkaline (pH 8.6); abrupt wavy boundary.

C1—9 to 18 inches; brown (10YR 5/3) sandy loam, very pale brown (10YR 7/3) dry; few faint brown (7.5YR 5/4) redoximorphic concentrations; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated; strongly alkaline (pH 8.6); clear smooth boundary.

C2—18 to 30 inches; brown (10YR 5/3) sandy loam, very pale brown (10YR 7/3) dry; massive; slightly hard, friable, slightly sticky and nonplastic; common very fine and fine roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated; strongly alkaline (pH 8.6); clear smooth boundary.

C3—30 to 60 inches; brown (10YR 5/3) sandy loam, very pale brown (10YR 7/3) dry; massive; slightly hard, friable, slightly sticky and nonplastic; common very fine and fine roots; 10 percent gravel; strongly effervescent; carbonates are disseminated; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Green River-Poganeab complex, 0 to 3 percent slopes

Location in survey area: 300 feet east and 300 feet north of the southwest corner of sec. 2, T. 15 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to redoximorphic features—9 to 30 inches
Depth to water table—36 to 48 inches

Particle-size control section:
Content of clay—10 to 18 percent
Content of rock fragments—0 to 15 percent

A horizon:
Value—5 or 6 dry, 3 or 4 moist
Chroma—2 or 3
Texture—loam or silt loam
Content of gravel—0 to 10 percent
Reaction—moderately alkaline or strongly alkaline

C horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 or 3
Content of gravel—0 to 15 percent
Reaction—moderately alkaline or strongly alkaline

Heist Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landscape position: Alluvial fans and lake terraces
Parent material: Alluvium derived from limestone, sandstone, and quartzite
Slope: 0 to 8 percent
Elevation: 4,700 to 5,600 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 51 degrees F
Frost-free period: 110 to 150 days

Taxonomic class: Coarse-loamy, mixed (calcareous), mesic Xeric Torriorthents

Typical Pedon

A1—0 to 14 inches; dark brown (10YR 4/3) fine sandy loam, yellowish brown (10YR 5/4) dry; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; few very fine tubular pores; slightly effervescent; 1 percent calcium carbonate equivalent; carbonates are disseminated; slightly alkaline (pH 7.8); gradual smooth boundary.

C1—14 to 26 inches; yellowish brown (10YR 5/4) fine sandy loam, light yellowish brown (10YR 6/4) dry; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine and fine tubular pores; 1 percent gravel; very slightly effervescent; 4 percent calcium carbonate equivalent; carbonates are disseminated;

moderately alkaline (pH 8.4); gradual smooth boundary.

C2—26 to 60 inches; yellowish brown (10YR 5/4) fine sandy loam, light yellowish brown (10YR 6/4) dry; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few very fine and fine tubular pores; 1 percent gravel; moderately effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8).

Typical Pedon Location

Map unit in which located: Heist fine sandy loam, 2 to 5 percent slopes

Location in survey area: 400 feet east and 1,300 feet north of the southwest corner of sec. 30, T. 18 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—8 to 15 percent
Content of rock fragments—0 to 15 percent

A horizon:
Hue—7.5YR or 10YR
Value—5 or 6 dry, 3 to 5 moist
Chroma—2 to 4
Content of gravel—0 to 15 percent
Reaction—neutral to moderately alkaline

C horizon:
Hue—7.YR or 10YR
Value—6 or 7 dry, 4 to 6 moist
Chroma—2 to 4
Texture—dominantly fine sandy loam or sandy loam, but includes layers of gravelly sandy loam or very gravelly sandy loam below a depth of 40 inches in some pedons
Rock fragment content—averages less than 15 percent above a depth of 40 inches and less than 35 percent below a depth of 40 inches, but ranges from 0 to 60 percent in any subhorizon
Reaction—moderately alkaline or strongly alkaline

Hiko Peak Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landscape position: Alluvial fans, fan remnants, and hillslopes
Parent material: Alluvium and colluvium derived from limestone, sandstone, conglomerate, quartzite, and igneous rock
Slope: 0 to 50 percent
Elevation: 4,700 to 6,500 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 45 to 51 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Loamy-skeletal, mixed, mesic Xeric Haplocalcids

Typical Pedon

A—0 to 3 inches; dark brown (10YR 4/3) fine sandy loam, light yellowish brown (10YR 6/4) dry; weak thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine vesicular pores; 15 percent gravel; slightly effervescent; 6 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); gradual wavy boundary.

Bw—3 to 16 inches; dark yellowish brown (10YR 4/4) gravelly loam, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; few very fine tubular pores; 25 percent gravel; strongly effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); gradual wavy boundary.

Bk1—16 to 29 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, very pale brown (10YR 7/4) dry; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few fine tubular pores; 50 percent gravel, 15 percent cobbles, and 5 percent stones; strongly effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in coatings on rock fragments and in soft masses; strongly alkaline (pH 8.8); gradual wavy boundary.

Bk2—29 to 43 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, very pale brown (10YR 7/4) dry; massive; loose, nonsticky and nonplastic; few very fine roots; 60 percent gravel and 5 percent cobbles; strongly effervescent; 19 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in coatings on rock fragments; strongly alkaline (pH 8.8); gradual smooth boundary.

Bk3—43 to 49 inches; yellowish brown (10YR 5/4) extremely gravelly loamy sand, very pale brown (10YR 7/3) dry; massive; loose, nonsticky and nonplastic; few very fine roots; 55 percent gravel and 10 percent cobbles; strongly effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in many coatings on rock fragments and in few pendants; strongly alkaline (pH 9.0); gradual smooth boundary.

BC—49 to 60 inches; yellowish brown (10YR 5/4) very gravelly sand, very pale brown (10YR 7/4) dry; single grain; loose, nonsticky and nonplastic; strongly effervescent; 50 percent gravel; 11 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8).

Typical Pedon Location

Map unit in which located: Hiko Peak fine sandy loam, 2 to 8 percent slopes

Location in survey area: 1,700 feet south and 100 feet west of the northeast corner of sec. 23, T. 18 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—7 to 20 inches

Particle-size control section:
Content of clay—10 to 18 percent
Content of rock fragments—35 to 70 percent

A horizon:
Hue—7.5YR or 10YR
Value—5 or 6 dry, 3 to 5 moist
Chroma—2 to 4
Texture—fine sandy loam, stony fine sandy loam, gravelly loam, gravelly sandy clay loam, cobbly sandy clay loam, or extremely stony loam
Content of rock fragments—10 to 70 percent
Reaction—moderately alkaline or strongly alkaline

Bw horizon:
Hue—7.5YR or 10YR
Value—3 or 4 moist
Chroma—2 to 4
Texture—stony fine sandy loam, very gravelly loam, gravelly loam, or very gravelly fine sandy loam
Content of rock fragments—25 to 60 percent
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 to 6 moist
Chroma—2 to 4
Texture—extremely gravelly sandy loam, very gravelly sandy loam, extremely cobbly sandy loam, extremely gravelly loam, very cobbly loam, very gravelly loam, extremely cobbly loam, or extremely gravelly loamy sand
Content of rock fragments—35 to 70 percent
Reaction—moderately alkaline or strongly alkaline

BC horizon, and C horizon, where present:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 to 4
Texture—very gravelly sand, very gravelly loamy sand, very gravelly fine sandy loam, very gravelly sandy loam, extremely cobbly sandy loam, very stony sandy loam, very cobbly sandy loam, or extremely cobbly loam
Content of rock fragments—35 to 70 percent
Reaction—moderately alkaline or strongly alkaline

Jardal Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Moderately rapid
Landscape position: Hillslopes, ridges, and fan remnants
Parent material: Alluvium and colluvium derived from quartzite, conglomerate, sandstone, and limestone
Slope: 5 to 40 percent
Elevation: 5,300 to 6,300 feet
Average annual precipitation: 12 to 14 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 130 days

Taxonomic class: Loamy-skeletal, carbonatic, mesic Petrocalcic Palexerolls

Typical Pedon

A—0 to 4 inches; very dark grayish brown (10YR 3/2) gravelly very fine sandy loam, grayish brown (10YR 5/2) dry; weak thick platy structure parting to moderate very fine granular; soft, very friable, nonsticky and nonplastic; many very fine, fine, and medium roots; many very fine interstitial pores; 25 percent gravel; very slightly effervescent; 6 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

Bw—4 to 9 inches; dark brown (10YR 3/3) very gravelly very fine sandy loam, brown (10YR 5/3) dry; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine, fine, and medium roots; many very fine interstitial pores; 35 percent gravel and 5 percent cobbles;

strongly effervescent; 24 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear smooth boundary.

Bk—9 to 26 inches; light gray (10YR 7/2) extremely gravelly very fine sandy loam, white (10YR 8/2) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; many medium and coarse roots; few fine interstitial pores; 70 percent gravel; violently effervescent; 49 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in filaments; strongly alkaline (pH 9.0); abrupt wavy boundary.

Bkm—26 to 30 inches; indurated calcium carbonate hardpan; upper layer is troweled, light gray (10YR 7/2), and 3 millimeters to 1 centimeter thick; lower layers are white (10YR 8/2) when dry and are softer; roots matted on surface; violently effervescent; strongly alkaline (pH 9.0).

Typical Pedon Location

Map unit in which located: Borvant-Jardal complex, 15 to 40 percent slopes
Location in survey area: 3,300 feet north of the southeast corner of sec. 33, T. 18 S., R. 4 W.

Range in Characteristics

Profile:
Depth to hardpan—20 to 40 inches
Depth to calcic horizon—9 to 15 inches
Thickness of mollic epipedon—7 to 10 inches

Particle-size control section:
Content of clay—5 to 18 percent
Content of rock fragments—35 to 70 percent
Calcium carbonate equivalent—40 to 70 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Texture—gravelly very fine sandy loam or very gravelly very fine sandy loam
Content of gravel—15 to 50 percent

Bw horizon:
Value—3 or 4 moist
Chroma—3 or 4
Content of rock fragments—35 to 60 percent
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Hue—7.5YR or 10YR
Value—7 or 8 dry, 6 or 7 moist
Chroma—2 to 4
Texture—extremely gravelly very fine sandy loam, very gravelly sandy loam, very gravelly loam, or extremely gravelly sandy loam
Content of gravel—35 to 70 percent

Jigsaw Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landscape position: Alluvial fans, lake plains, and lake terraces
Parent material: Alluvium derived from sedimentary rock
Slope: 0 to 5 percent
Elevation: 4,700 to 5,300 feet
Average annual precipitation: 10 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 150 days

Taxonomic class: Fine-silty, mixed, mesic Xeric Torriorthents

Typical Pedon

Ap1—0 to 4 inches; brown (10YR 5/3) silt loam, light brownish gray (10YR 6/2) dry; weak thin platy structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; strongly effervescent; 17 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

Ap2—4 to 9 inches; brown (10YR 5/3) silt loam, light brownish gray (10YR 6/2) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; common very fine and fine tubular pores; strongly effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

C1—9 to 16 inches; brown (10YR 5/3) silty clay loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, sticky and plastic; many very fine and fine roots and few medium roots; common very fine tubular pores; strongly effervescent; 23 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in common or many soft masses; moderately alkaline (pH 8.2); clear smooth boundary.

C2—16 to 32 inches; brown (10YR 5/3) silty clay loam, pale brown (10YR 6/3) dry; moderate fine and medium subangular blocky structure; hard, firm, sticky and plastic; common very fine and fine roots; few very fine tubular pores; strongly effervescent; 25 percent calcium carbonate equivalent; carbonates are disseminated; clear smooth boundary.

C3—32 to 60 inches; brown (10YR 5/3) silty clay loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; hard, firm, sticky and plastic; few very fine and fine roots; few very fine tubular pores; strongly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Jigsaw-Oakcity complex, 0 to 2 percent slopes

Location in survey area: 2,200 feet west and 150 feet south of the northeast corner of sec. 30, T. 21 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—27 to 35 percent

A horizon:
Hue—7.5YR or 10YR
Value—5 or 6 dry, 4 or 5 moist
Chroma—2 to 4
Texture—silt loam or loam

C horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 or 5 moist
Chroma—3 or 4
Texture—silty clay loam or clay loam
Reaction—moderately alkaline or strongly alkaline

Kanosh Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately rapid
Landscape position: Low lake terraces
Parent material: Alluvium derived from sandstone and limestone
Slope: 0 to 2 percent
Elevation: 4,600 to 4,800 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 49 to 54 degrees F
Frost-free period: 120 to 150 days

Taxonomic class: Coarse-loamy, mixed, mesic Xeric Calcigypsids

Typical Pedon

A—0 to 4 inches; grayish brown (10YR 5/2) very fine sandy loam, light gray (10YR 7/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine vesicular pores; slightly effervescent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk—4 to 19 inches; grayish brown (10YR 5/2) fine sandy loam, light gray (10YR 7/2) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few fine tubular pores; strongly effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses; strongly alkaline (pH 8.6); clear smooth boundary.

Bky1—19 to 30 inches; light brownish gray (10YR 6/2) fine sandy loam, white (10YR 8/2) dry; weak fine subangular blocky structure parting to massive; soft, friable, slightly sticky and nonplastic; few very fine and fine roots; strongly effervescent; 29 percent calcium carbonate equivalent; carbonates are disseminated and segregated in few soft masses; gypsum is disseminated and segregated in few small masses and crystals; strongly alkaline (pH 8.8); clear smooth boundary

Bky2—30 to 38 inches; light brownish gray (10YR 6/2) fine sandy loam, white (10YR 8/2) dry; common fine distinct yellowish brown (10YR 5/4) redoximorphic concentrations; weak fine subangular blocky structure parting to massive; soft, friable, slightly sticky and nonplastic; few very fine and fine roots; strongly effervescent; 29 percent calcium carbonate equivalent; carbonates are disseminated and segregated in few soft masses; gypsum is disseminated and segregated in few small masses and crystals; strongly alkaline (pH 8.8); clear smooth boundary.

Bky3—38 to 60 inches; pale brown (10YR 6/3) fine sandy loam, very pale brown (10YR 8/3) dry; common fine distinct yellowish brown (10YR 5/4) mottles; massive; soft, friable, nonsticky and nonplastic; strongly effervescent; 25 percent calcium carbonate equivalent; carbonates are disseminated and segregated in few soft masses;

gypsum is disseminated and segregated in few small masses and crystals; strongly alkaline (pH 9.0).

Typical Pedon Location

Map unit in which located: Kanosh very fine sandy loam, 0 to 2 percent slopes

Location in survey area: 100 feet south and 150 feet east of the northwest corner of sec. 3, T. 19 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic or gypsic horizon—4 to 19 inches
Depth to water table—20 to 40 inches
Depth to redoximorphic features—20 to 40 inches

Particle-size control section:
Content of clay—10 to 18 percent

A horizon:
Value—6 or 7 dry, 5 or 6 moist
Chroma—2 or 3
Texture—very fine sandy loam or sandy loam
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Value—7 or 8 dry, 5 or 6 moist
Chroma—2 or 3
Texture—fine sandy loam, sandy loam, or very fine sandy loam
Calcium carbonate equivalent—25 to 30 percent

Bky horizon:
Value—7 or 8 dry, 5 to 7 moist
Chroma—2 or 3
Texture—fine sandy loam, sandy loam, or very fine sandy loam
Calcium carbonate equivalent—25 to 30 percent

Kapod Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Fan remnants, mountain slopes, and hillslopes
Parent material: Alluvium and colluvium derived from quartzite, conglomerate, sandstone, and limestone
Slope: 2 to 50 percent
Elevation: 5,200 to 6,500 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Loamy-skeletal, mixed, mesic Calcic Argixerolls

Typical Pedon

A—0 to 4 inches; very dark grayish brown (10YR 3/2) very stony loam, yellowish brown (10YR 5/3) dry; moderate very fine granular structure; soft, very friable, slightly sticky and slightly plastic; few fine roots and common very fine roots; 20 percent gravel; slightly alkaline (pH 7.6); clear smooth boundary.

Bt1—4 to 14 inches; dark brown (10YR 3/3) very gravelly clay loam, yellowish brown (10YR 5/3) dry; moderate fine subangular blocky structure; hard, friable, sticky and slightly plastic; few very fine roots; few fine tubular pores; few clay films on faces of peds and in pores; 40 percent gravel and 10 percent cobbles; carbonates are segregated in coatings on peds and rock fragments; slightly alkaline (pH 7.6); clear smooth boundary.

Bt2—14 to 20 inches; dark yellowish brown (10YR 4/4) extremely gravelly clay loam, yellowish brown (10YR 5/4) dry; moderate fine subangular blocky structure; very hard, friable, sticky and slightly plastic; few very fine and fine roots; few fine tubular pores; few clay films on faces of peds and in pores; 50 percent gravel and 15 percent cobbles; very slightly effervescent; less than 5 percent calcium carbonate equivalent; carbonates are segregated in coatings on peds and rock fragments; moderately alkaline (pH 8.0); clear smooth boundary.

Bk1—20 to 30 inches; brown (10YR 5/3) extremely gravelly sandy loam, light yellowish brown (10YR 6/4) dry; single grain; loose, nonsticky and nonplastic; few very fine roots; 55 percent gravel and 10 percent cobbles; strongly effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and concretions on rock fragments; moderately alkaline (pH 8.2); clear smooth boundary.

Bk2—30 to 60 inches; yellowish brown (10YR 5/4) extremely gravelly loam, very pale brown (10YR 7/4) dry; massive; hard, friable, nonsticky and slightly plastic; 55 percent gravel and 10 percent cobbles; strongly effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in concretions on peds and rock fragments; moderately alkaline (pH 8.2).

Typical Pedon Location

Map unit in which located: Kapod very stony loam, 2 to 15 percent slopes
Location in survey area: 1,800 feet north and 100 feet east of the southeast corner of sec. 26, T. 17 S., R. 3 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to argillic horizon—14 to 20 inches
Depth to calcic horizon—11 to 30 inches
Thickness of mollic epipedon—10 to 14 inches

Particle-size control section:
Content of clay—27 to 35 percent
Content of rock fragments—40 to 70 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3

Bt horizon:
Value—5 or 6 dry, 3 or 4 moist
Chroma—3 or 4
Content of rock fragments—35 to 70 percent
Reaction—slightly alkaline or moderately alkaline

Bk horizon:
Value—6 to 8 dry, 5 or 6 moist
Chroma—3 or 4
Texture—extremely gravelly sandy loam or extremely gravelly loam
Content of rock fragments—40 to 70 percent
Reaction—moderately alkaline or strongly alkaline

Kessler Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Alluvial fans, lake plains, and lake terraces
Parent material: Alluvium and lacustrine deposits derived from limestone and sandstone
Slope: 0 to 8 percent
Elevation: 4,800 to 5,400 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Fine-silty, carbonatic, mesic Xeric Haplocalcids

Typical Pedon

A1—0 to 3 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate thin platy structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine vesicular pores; very slightly effervescent; 9 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt wavy boundary.

A2—3 to 6 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few medium tubular pores; slightly effervescent; 16 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt wavy boundary.

AB—6 to 15 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and fine vesicular and tubular pores; strongly effervescent; 32 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear wavy boundary.

Bk1—15 to 22 inches; pale brown (10YR 6/3) silt loam, light gray (10YR 7/2) dry; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine vesicular pores; strongly effervescent; 50 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses and veins; moderately alkaline (pH 8.2); clear smooth boundary.

Bk2—22 to 26 inches; pale brown (10YR 6/3) silt loam, very pale brown (10YR 7/3) dry; moderate fine and medium subangular blocky structure parting to moderate thin platy; hard, very friable, slightly sticky and slightly plastic; few very fine and fine tubular pores; violently effervescent; 80 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses and veins; strongly alkaline (pH 8.6); clear smooth boundary.

Bk3—26 to 38 inches; very pale brown (10YR 7/3) silt loam, very pale brown (10YR 7/3) dry; moderate medium prismatic structure parting to moderate fine subangular blocky; hard, friable, slightly sticky and moderately plastic; few very fine roots; few very fine and fine vesicular pores; violently effervescent; 80 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses and veins; strongly alkaline (pH 8.6); gradual smooth boundary.

Bk4—38 to 43 inches; pale brown (10YR 6/3) silt loam, very pale brown (10YR 7/3) dry; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine tubular pores; few snail shells; violently effervescent; 75 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses and veins; strongly alkaline (pH 8.6); gradual smooth boundary.

Bk5—43 to 60 inches; pale brown (10YR 6/3) silt loam, very pale brown (10YR 7/3) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; violently effervescent; 40 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses; strongly alkaline (pH 8.8).

Typical Pedon Location

Map unit in which located: Kessler silt loam, 0 to 2 percent slopes

Location in survey area: 2,700 feet east and 1,400 feet south of the northwest corner of sec. 13, T. 18 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—6 to 15 inches

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Value—6 to 7 dry, 3 to 5 moist
Chroma—2 or 3
Texture—silt loam or loam

Bk horizon:
Value—7 or 8 dry, 4 to 7 moist
Chroma—2 to 4
Calcium carbonate equivalent—40 to 80 percent
Reaction—moderately alkaline to very strongly alkaline

Kidman Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Fan remnants
Parent material: Alluvium derived from quartzite, limestone, and sandstone
Slope: 15 to 30 percent
Elevation: 5,200 to 6,500 feet
Average annual precipitation: 13 to 16 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Coarse-loamy, mixed, mesic Calcic Haploxerolls

Typical Pedon

A1—0 to 3 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 5/3) dry; moderate medium platy structure parting to moderate very fine granular; soft, very friable, nonsticky and nonplastic; many very fine and fine roots and few medium and coarse roots; many very fine interstitial pores; 2 percent gravel; slightly alkaline (pH 7.8); clear smooth boundary.

A2—3 to 7 inches; dark brown (10YR 3/3) fine sandy loam, dark brown (10YR 4/3) dry; weak thick platy structure; slightly hard, very friable, nonsticky and nonplastic; few fine and medium roots; few fine tubular pores; 2 percent gravel; slightly alkaline (pH 7.8); clear smooth boundary.

Bw—7 to 13 inches; dark brown (7.5YR 3/2) silt loam, yellowish brown (10YR 5/4) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and medium roots; few fine tubular pores; few clay films in root channels and pores; 2 percent gravel; slightly effervescent; 8 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

Bk—13 to 34 inches; dark brown (7.5YR 4/4) silt loam, pink (7.5YR 7/4) dry; weak fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few fine and medium roots; few medium tubular pores; 2 percent gravel; strongly effervescent; 24 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in common fine filaments; moderately alkaline (pH 8.4); clear smooth boundary.

BC—34 to 60 inches; brown (7.5YR 5/4) sandy loam, light brown (7.5YR 6/4) dry; massive; slightly hard, friable, nonsticky and nonplastic; few fine and medium roots; few very fine interstitial pores;

2 percent gravel; strongly effervescent; 16 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in few fine nodules; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Lodar-Kidman complex, 15 to 50 percent slopes
Location in survey area: 900 feet north and 1,200 feet east of the southwest corner of sec. 35, T. 18 S., R. 3 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—13 to 20 inches
Thickness of mollic epipedon—7 to 13 inches

Particle-size control section:
Content of clay—5 to 18 percent
Content of rock fragments—0 to 5 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Reaction—slightly alkaline or moderately alkaline

Bw horizon:
Hue—7.5YR or 10YR
Value—5 or 6 dry, 3 or 4 moist
Chroma—3 or 4
Texture—silt loam or loam

Bk and BC horizons:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 to 6 moist
Chroma—3 or 4
Texture—silt loam, loam, or sandy loam
Content of gravel—0 to 5 percent
Reaction—moderately alkaline or strongly alkaline

Kitchell Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landscape position: Mountain slopes
Parent material: Colluvium derived from limestone and sandstone
Slope: 40 to 70 percent
Elevation: 7,400 to 7,800 feet
Average annual precipitation: 20 to 22 inches
Average annual air temperature: 40 to 43 degrees F
Frost-free period: 60 to 90 days

Taxonomic class: Loamy-skeletal, carbonatic Calcic Pachic Cryoborolls

Typical Pedon

A1—0 to 5 inches; very dark brown (10YR 2/2) gravelly loam, very dark grayish brown (10YR 3/2) dry; weak fine granular structure; slightly hard, friable, nonsticky and nonplastic; common fine roots and few very fine roots; 20 percent gravel; matrix is noneffervescent; carbonates are segregated in fine nodules and gravel-sized fragments that are strongly effervescent; neutral (pH 7.0); clear smooth boundary.

A2—5 to 14 inches; very dark brown (10YR 2/2) gravelly loam, very dark grayish brown (10YR 3/2) dry; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common fine roots and few medium and coarse roots; 20 percent gravel; matrix is noneffervescent; carbonates are segregated in fine nodules and gravel-sized fragments that are strongly effervescent; neutral (pH 7.0); clear wavy boundary.

A3—14 to 22 inches; very dark brown (10YR 2/2) extremely cobbly loam, dark brown (7.5YR 4/2) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few fine discontinuous tubular pores; 30 percent gravel and 45 percent cobbles; matrix is slightly effervescent; carbonates are segregated in fine nodules, in fine gravel-sized fragments, and as coatings on rock fragments; neutral (pH 7.0); clear irregular boundary.

Bk1—22 to 46 inches; dark brown (10YR 4/2) extremely stony loam, light brownish gray (10YR 6/2) dry; massive; slightly hard, friable; common very fine and fine roots and few medium and coarse roots; 20 percent gravel, 25 percent cobbles, and 30 percent stones; violently effervescent; carbonates are disseminated and are segregated in coatings on rock fragments and in fine nodules; moderately alkaline (pH 8.0); gradual wavy boundary.

Bk2—46 to 60 inches; brown (10YR 5/3) extremely stony loam, very pale brown (10YR 7/3) dry; massive; soft, friable, slightly sticky and slightly plastic; few fine and medium roots; 15 percent gravel, 25 percent cobbles, and 40 percent stones; violently effervescent; carbonates are disseminated and are segregated in coatings on rock fragments and in fine nodules; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Kitchell gravelly loam, 40 to 70 percent slopes

Location in survey area: 2,150 feet north and 1,250 feet west of the southeast corner of sec. 16, T. 17 S., R. 1 E.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—16 to 24 inches
Thickness of mollic epipedon—16 to 22 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—35 to 80 percent
Carbonate equivalent—40 to 60 percent

A horizon:
Value—3 or 4 dry, 2 or 3 moist
Chroma—2 or 3
Content of rock fragments—15 to 35 percent
Reaction—neutral to moderately alkaline

Bk horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 or 3
Texture—very stony loam or extremely stony loam
Content of rock fragments—35 to 80 percent
Reaction—moderately alkaline or strongly alkaline

Kudlac Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Very slow
Landscape position: Stream terraces, risers, and breaks
Parent material: Lacustrine deposits
Slope: 15 to 50 percent
Elevation: 4,700 to 4,900 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 49 to 52 degrees F
Frost-free period: 110 to 140 days

Taxonomic class: Fine-silty, mixed (calcareous), mesic Xeric Torriorthents

Typical Pedon

A1—0 to 3 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; weak thin platy structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine vesicular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—3 to 6 inches; brown (10YR 5/3) silty clay loam, pale brown (10YR 6/3) dry; weak fine and medium granular structure; slightly hard, friable, sticky and plastic; many very fine and fine roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

AC—6 to 12 inches; brown (10YR 5/3) silty clay loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; hard, firm, sticky and plastic; common fine and very fine roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated; strongly alkaline (pH 8.6); clear smooth boundary.

C1—12 to 18 inches; brown (10YR 5/3) silty clay loam, pale brown (10YR 6/3) dry; weak fine rocklike structure; hard, firm, sticky and plastic; few very fine roots; few very fine tubular pores; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C2—18 to 45 inches; brown (10YR 5/3) silty clay loam, pale brown (10YR 6/3) dry; massive; hard, firm, sticky and plastic; few very fine roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

C3—45 to 60 inches; brown (10YR 5/3) silty clay loam, very pale brown (10YR 7/3) dry; massive; slightly hard, firm, sticky and plastic; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Kudlac silt loam, 15 to 50 percent slopes
Location in survey area: 1,200 feet west and 400 feet south of the northeast corner of sec. 4, T. 15 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to stratified lake sediment—12 to 20 inches

Particle-size control section:
Content of clay—18 to 35 percent
Content of carbonates—10 to 25 percent

A horizon:
Value—5 or 6 moist, 6 or 7 dry
Chroma—3 or 4
Texture—silt loam or silty clay loam
Content of carbonates—10 to 20 percent
Reaction—moderately alkaline or strongly alkaline

C horizon:
Value—5 or 6 moist, 6 to 8 dry
Chroma—2 to 4
Texture—silt loam, clay loam, or silty clay loam
Content of carbonates—10 to 25 percent
Reaction—moderately alkaline or strongly alkaline

Larwood Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landscape position: Lake plains
Parent material: Lacustrine deposits
Slope: 0 to 2 percent
Elevation: 4,700 to 4,800 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 49 to 51 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Fine-silty, mixed, mesic Xeric Calciargids

Typical Pedon

A1—0 to 4 inches; dark brown (10YR 4/3) fine sandy loam, pale brown (10YR 6/3) dry; weak coarse subangular blocky structure parting to weak fine granular; soft, very friable, slightly sticky and nonplastic; few medium and coarse roots and many fine roots; neutral (pH 7.3); abrupt wavy boundary.

A2—4 to 12 inches; yellowish brown (10YR 5/4) loam, pale brown (10YR 6/3) dry; weak thin platy structure parting to weak coarse granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine and fine tubular pores; slightly alkaline (pH 7.4); clear smooth boundary.

Bw—12 to 19 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/3) dry; moderate coarse angular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine tubular pores; slightly effervescent; 19 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear wavy boundary.

Btk—19 to 39 inches; pale brown (10YR 6/3) silty clay loam, very pale brown (10YR 7/3) dry; weak coarse angular blocky structure parting to moderate fine subangular blocky; very hard, firm, moderately sticky and very plastic; few fine roots; many very fine and fine tubular pores; few thin clay films on faces of peds and in pores; strongly effervescent; 36 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in common medium rounded soft masses; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bk—39 to 45 inches; brown (10YR 5/3) silt loam (stratified lacustrine sediment), light brownish gray (10YR 6/2) dry; massive; hard, friable, slightly sticky and slightly plastic; strongly effervescent; 27 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 9.0); abrupt wavy boundary.

C—45 to 60 inches; brown (10YR 5/3) very fine sandy loam, light brownish gray (10YR 6/2) dry; massive; slightly hard, friable, nonsticky and nonplastic; very slightly effervescent; 17 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8).

Typical Pedon Location

Map unit in which located: Larwood-Berent complex, 0 to 8 percent slopes
Location in survey area: 1,700 feet west and 1,600 feet south of the northeast corner of sec. 16, T. 15 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to argillic horizon—19 to 21 inches
Depth to calcic horizon—19 to 32 inches

Particle-size control section:
Content of clay—27 to 35 percent

A horizon:
Value—6 dry, 3 or 4 moist
Chroma—2 to 4
Texture—fine sandy loam or loam
Reaction—neutral or slightly alkaline

Bw horizon:
Value—6 or 7 dry, 4 to 6 moist
Chroma—3 or 4

Btk horizon:
Value—6 or 7 dry, 5 or 6 moist
Chroma—3 or 4
Texture—silty clay loam or silt loam

Bk horizon:
Value—6 or 7 dry, 5 or 6 moist
Chroma—2 or 3

C horizon:
Value—6 or 7 dry, 5 or 6 moist

Chroma—2 or 3
Texture—silt loam or very fine sandy loam

Linoyer Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Lake plains and lake terraces
Parent material: Alluvium and lacustrine deposits derived from sandstone and limestone
Slope: 0 to 5 percent
Elevation: 4,700 to 5,200 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Coarse-silty, mixed (calcareous), mesic Xeric Torriorthents

Typical Pedon

A1—0 to 9 inches; brown (10YR 5/3) very fine sandy loam, pale brown (10YR 6/3) dry; moderate thin and medium platy structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine and fine tubular pores; very slightly effervescent; 9 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.

A2—9 to 15 inches; yellowish brown (10YR 5/4) very fine sandy loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; few very fine tubular pores; slightly effervescent; 11 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear smooth boundary.

C1—15 to 48 inches; yellowish brown (10YR 5/4) very fine sandy loam, pale brown (10YR 6/3) dry; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine tubular pores and few medium tubular pores; slightly effervescent; 12 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 9.0); clear smooth boundary.

C2—48 to 60 inches; yellowish brown (10YR 5/4) very fine sandy loam, pale brown (10YR 6/3) dry; massive; slightly hard, friable, nonsticky and nonplastic; few very fine and fine tubular pores; slightly effervescent; 15 percent calcium carbonate equivalent; strongly alkaline (pH 9.0).

Typical Pedon Location

Map unit in which located: Linoyer very fine sandy loam, 2 to 5 percent slopes
Location in survey area: 2,000 feet north and 1,500 feet east of the southwest corner of sec. 6, T. 15 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—12 to 18 percent

A horizon:
Value—5 to 7 dry, 4 to 6 moist
Chroma—2 to 4
Texture—very fine sandy loam or silt loam
Reaction—moderately alkaline or strongly alkaline

C horizon:
Value—6 or 7 dry, 4 to 6 moist
Chroma—3 or 4
Texture—very fine sandy loam or silt loam
Reaction—moderately alkaline or strongly alkaline

Lizzant Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landscape position: Mountain slopes
Parent material: Alluvium and colluvium derived from sandstone and limestone
Slope: 30 to 60 percent
Elevation: 6,800 to 7,800 feet
Average annual precipitation: 18 to 20 inches
Average annual air temperature: 40 to 43 degrees F
Frost-free period: 60 to 90 days

Taxonomic class: Loamy-skeletal, carbonatic, frigid Typic Calcixerolls

Typical Pedon

A1—0 to 10 inches; very dark brown (10YR 2/2) extremely cobbly loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots and few medium and coarse roots; 20 percent gravel, 35 percent cobbles, and 5 percent stones; strongly effervescent; 27 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear wavy boundary.

Bw—10 to 21 inches; brown (7.5YR 5/4) gravelly loam, pink (7.5YR 7/4) dry; weak fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; common fine to coarse roots; 30 percent gravel and 5 percent cobbles; violently effervescent; 42 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); gradual wavy boundary.

Bk1—21 to 31 inches; brown (7.5YR 5/4) very cobbly loam, pink (7.5YR 7/4) dry; weak medium subangular blocky structure; soft, friable, slightly sticky and slightly plastic; few fine to coarse roots; 20 percent gravel and 30 percent cobbles; violently effervescent; 53 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in coatings on rock fragments; moderately alkaline (pH 8.4); gradual wavy boundary.

Bk2—31 to 60 inches; dark brown (7.5YR 4/4) extremely stony loam, brown (7.5YR 5/4) dry; weak fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; few fine and medium roots; 15 percent gravel and 50 percent stones; violently effervescent; 51 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and filaments; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Lizzant extremely cobbly loam, 30 to 60 percent slopes

Location in survey area: 530 feet north and 1,060 feet west of the southeast corner of sec. 12, T. 18 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—21 to 26 inches
Thickness of mollic epipedon—10 to 15 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—35 to 70 percent
Calcium carbonate equivalent—40 to 60 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Content of rock fragments—35 to 70 percent

Bw horizon:
Hue—7.5YR or 10YR
Value—5 to 7 dry, 4 or 5 moist
Chroma—3 or 4
Texture—gravelly loam, very cobbly loam, or very gravelly loam
Content of rock fragments—30 to 60 percent
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Hue—7.5YR or 10YR
Value—5 to 7 dry, 4 or 5 moist
Chroma—3 or 4
Texture—very cobbly loam, very gravelly loam, or extremely stony loam
Content of rock fragments—35 to 70 percent
Reaction—moderately alkaline or strongly alkaline

Lodar Series

Depth class: Shallow
Drainage class: Somewhat excessively drained
Permeability: Moderate
Landscape position: Mountain slopes and hillslopes
Parent material: Residuum and colluvium derived from limestone and sandstone
Slope: 15 to 70 percent
Elevation: 5,600 to 6,500 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 45 to 50 degrees F
Frost-free period: 90 to 130 days

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Calcixerolls

Typical Pedon

Needles, twigs, and grass cover 50 percent of surface.

A1—0 to 3 inches; dark brown (10YR 3/3) extremely stony loam, brown (10YR 5/3) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium and coarse roots; 40 percent gravel; strongly effervescent; 23 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt wavy boundary.

A2—3 to 10 inches; dark brown (10YR 3/3) very gravelly loam, brown (10YR 5/3) dry; weak fine subangular blocky structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium and coarse roots; 40 percent gravel; strongly effervescent; 32 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—10 to 17 inches; yellowish brown (10YR 5/4) very gravelly loam, light yellowish brown (10YR 6/4) dry; weak fine subangular blocky structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; common fine and medium roots; 45 percent gravel and 10 percent cobbles; violently effervescent; 47 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and coatings on rock fragments; moderately alkaline (pH 8.4); abrupt irregular boundary.

R—17 inches; limestone.

Typical Pedon Location

Map unit in which located: Lodar-Kidman complex, 15 to 50 percent slopes

Location in survey area: 2,250 feet east and 650 feet north of the southwest corner of sec. 35, T. 18 S., R. 3 W.

Range in Characteristics

Profile:
Depth to bedrock—10 to 20 inches
Depth to calcic horizon—8 to 10 inches
Thickness of mollic epipedon—7 to 10 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—40 to 70 percent

A horizon:
Hue—7.5YR or 10YR
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Texture—extremely stony loam or very gravelly loam
Content of rock fragments—40 to 70 percent
Calcium carbonate equivalent—20 to 40 percent

Bk horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 or 5 moist
Chroma—3 or 4
Texture—very gravelly loam or very cobbly loam
Content of rock fragments—40 to 60 percent
Calcium carbonate equivalent—40 to 60 percent
Reaction—moderately alkaline or strongly alkaline

Lonjon Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Mountain slopes
Parent material: Residuum and colluvium derived from sandstone and limestone
Slope: 30 to 60 percent
Elevation: 6,700 to 7,300 feet
Average annual precipitation: 14 to 16 inches
Average annual air temperature: 40 to 44 degrees F
Frost-free period: 70 to 90 days

Taxonomic class: Loamy-skeletal, carbonatic, frigid Typic Calcixerolls

Typical Pedon

O—1 inch to 0; decaying leaves, twigs, and conifer needles.

A1—0 to 2 inches; very dark brown (10YR 2/2) stony loam, very dark grayish brown (10YR 3/2) dry; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few fine and medium roots; 15 percent stones and 10 percent gravel; very slightly effervescent; 6 percent calcium carbonate equivalent; carbonates are disseminated; slightly alkaline (pH 7.8); abrupt wavy boundary.

A2—2 to 6 inches; very dark grayish brown (10YR 3/2) very stony loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few medium and coarse roots; 20 percent gravel and 20 percent stones; very slightly effervescent; 8 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

Bw—6 to 12 inches; very dark grayish brown (10YR 3/2) very gravelly loam, grayish brown (10YR 5/2) dry; moderate medium and coarse subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few medium and coarse roots; 40 percent gravel; moderately effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); gradual wavy boundary.

Bk1—12 to 24 inches; yellowish brown (10YR 5/4) very gravelly loam, light yellowish brown (10YR 6/4) dry; weak coarse subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few medium and coarse roots; 40 percent gravel; violently effervescent; 49 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); gradual irregular boundary.

Bk2—24 to 37 inches; yellowish brown (10YR 5/4) extremely gravelly loam, light yellowish brown (10YR 6/4) dry; weak fine subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; 50 percent gravel and 20 percent cobbles; violently effervescent; 52 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and filaments; moderately alkaline (pH 8.4); abrupt irregular boundary.

R—37 inches; limestone.

Typical Pedon Location

Map unit in which located: Lonjon stony loam, 30 to 60 percent slopes

Location in survey area: 1,700 feet north and 2,500 feet east of the southwest corner of sec. 1, T. 19 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—20 to 40 inches
Depth to calcic horizon—12 to 20 inches
Thickness of mollic epipedon—10 to 12 inches

Particle-size control section:
Content of clay—18 to 27 percent
Content of rock fragments—35 to 70 percent

A horizon:
Value—3 to 5 dry, 2 or 3 moist
Texture—stony loam or very stony loam
Content of rock fragments—25 to 40 percent

Bw horizon:
Hue—7.5YR or 10YR
Value—5 or 6 dry, 3 to 5 moist
Chroma—3 or 4
Content of gravel—35 to 60 percent

Bk horizon:
Value—6 or 7 dry, 5 or 6 moist
Chroma—3 or 4
Texture—extremely gravelly loam or very gravelly loam
Content of rock fragments—35 to 70 percent

Manassa Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landscape position: Alluvial flats, lake plains, and lake terraces
Parent material: Alluvium and lacustrine deposits derived from sedimentary rock
Slope: 0 to 2 percent
Elevation: 4,700 to 6,000 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 110 to 150 days
Taxonomic class: Fine-silty, mixed (calcareous), mesic Xeric Torriorthents

Typical Pedon

A1—0 to 5 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine and fine vesicular pores; violently effervescent; 20 percent calcium carbonate equivalent; strongly alkaline (pH 8.6); carbonates are disseminated; abrupt smooth boundary.

A2—5 to 13 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine and fine tubular pores; strongly effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear smooth boundary.

C1—13 to 27 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/4) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium roots; few very fine and fine tubular pores; strongly effervescent; 21 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 9.0); clear smooth boundary.

C2—27 to 46 inches; yellowish brown (10YR 5/4) silty clay loam, very pale brown (10YR 7/4) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; common very fine and fine tubular pores; weak thin clay films; strongly effervescent; 28 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 9.0); clear smooth boundary.

C3—46 to 60 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/4) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine tubular pores; strongly effervescent; 28 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in fine filaments; strongly alkaline (pH 9.0).

Typical Pedon Location

Map unit in which located: Manassa-Mellor silt loams, 0 to 2 percent slopes

Location in survey area: 1,500 feet east and 2,900 feet north of the southwest corner of sec. 23, T. 20 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—18 to 35 percent

A horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 to 4
Sodium adsorption ratio—more than 13
Reaction—moderately alkaline to very strongly alkaline

C horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 to 6 moist
Chroma—2 to 4
Texture—silt loam or silty clay loam
Sodium adsorption ratio—more than 13
Reaction—strongly alkaline or very strongly alkaline

Maple Hollow Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landscape position: Fan remnants
Parent material: Alluvium derived from quartzite, sandstone, limestone, and conglomerate
Slope: 5 to 20 percent
Elevation: 5,400 to 6,500 feet
Average annual precipitation: 14 to 16 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Fine, montmorillonitic, mesic Typic Argixerolls

Typical Pedon

A1—0 to 2 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine irregular pores; neutral (pH 6.6); abrupt smooth boundary.

A2—2 to 8 inches; very dark grayish brown (10YR 3/2) clay loam, brown (10YR 5/3) dry; weak thin platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine irregular pores; neutral (pH 6.6); clear smooth boundary.

Bt1—8 to 16 inches; dark reddish brown (5YR 3/3) clay loam, reddish brown (5YR 5/3) dry; weak fine and medium subangular blocky structure; hard, firm, sticky and plastic; many very fine and fine roots; few very fine and fine tubular pores; thin continuous clay films (cutans) on faces of peds; neutral (pH 6.6); clear smooth boundary.

Bt2—16 to 44 inches; reddish brown (5YR 4/4) clay, light reddish brown (5YR 6/4) dry; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine and fine roots; common very fine tubular pores; moderately thick continuous clay films on faces of peds; neutral (pH 6.8); abrupt smooth boundary.

Bk—44 to 60 inches; reddish brown (5YR 5/3) loam, pink (5YR 7/3) dry; weak fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; strongly effervescent; calcium carbonates are disseminated and are segregated in masses and filaments; moderately alkaline (pH 8.2).

Typical Pedon Location

Map unit in which located: Current Spring-Maple Hollow complex, 5 to 15 percent slopes
Location in survey area: 2,500 feet east and 1,400 feet north of the southwest corner of sec. 10, T. 20 S., R. 3 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to argillic horizon—5 to 14 inches
Depth to calcic horizon—40 to 50 inches
Thickness of mollic epipedon—10 to 16 inches

Particle-size control section:
Content of clay—35 to 50 percent
Content of rock fragments—0 to 15 percent

A horizon:
Hue—5YR to 10YR
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Reaction—neutral or slightly alkaline

Bt horizon:
Hue—5YR or 7.5YR

Value—4 to 6 dry, 2 to 4 moist
Chroma—3 to 6
Texture—clay loam or clay
Reaction—neutral or slightly alkaline

Bk horizon:
Hue—5YR or 7.5YR
Value—5 to 7 dry, 4 to 6 moist
Chroma—2 to 4
Content of gravel—0 to 15 percent
Reaction—slightly alkaline or moderately alkaline

Medburn Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landscape position: Lake plains and lake terraces
Parent material: Alluvium derived from sedimentary rock
Slope: 0 to 2 percent
Elevation: 4,700 to 4,900 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Coarse-loamy, mixed (calcareous), mesic Xeric Torriorthents

Typical Pedon

A—0 to 4 inches; dark yellowish brown (10YR 4/4) sandy loam, pale brown (10YR 6/3) dry; weak medium platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine vesicular pores; strongly effervescent; 11 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 9.0); clear smooth boundary.

C1—4 to 13 inches; yellowish brown (10YR 5/4) sandy loam, light yellowish brown (10YR 6/4) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine and fine tubular pores; strongly effervescent; 11 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); clear smooth boundary.

C2—13 to 30 inches; yellowish brown (10YR 5/3) fine sandy loam, very pale brown (10YR 7/4) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and fine tubular pores; strongly effervescent; 19 percent calcium carbonate equivalent; carbonates are disseminated; very strongly alkaline (pH 9.6); clear smooth boundary.

C3—30 to 60 inches; light yellowish brown (10YR 6/4) fine sandy loam, white (10YR 8/2) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; 24 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8).

Typical Pedon Location

Map unit in which located: Medburn-Berent-Escalante complex, 0 to 8 percent slopes
Location in survey area: 400 feet west and 1,400 feet north of the southeast corner of sec. 20, T. 18 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—10 to 18 percent
Calcium carbonate equivalent—15 to 30 percent

A horizon:
Value—4 or 5 moist, 5 or 6 dry
Chroma—2 to 4
Effervescence—slightly effervescent or strongly effervescent
Reaction—moderately alkaline or strongly alkaline

C horizon:
Value—6 to 8 dry, 5 or 6 moist
Chroma—2 to 4
Texture—sandy loam or fine sandy loam
Reaction—strongly alkaline or very strongly alkaline

Mellor Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landscape position: Lake plains, lake terraces, and alluvial flats
Parent material: Alluvium and lacustrine deposits derived from sedimentary rock
Slope: 0 to 2 percent
Elevation: 4,600 to 6,000 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Fine-silty, mixed, mesic Xeric Natrargids

Typical Pedon

E1—0 to 2 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak thick platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine vesicular pores; strongly effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.

E2—2 to 6 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak thin platy structure parting to weak fine granular; soft, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine vesicular pores; strongly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.

Btnk1—6 to 14 inches; brown (7.5YR 5/4) silty clay loam, light brown (7.5YR 6/4) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine tubular pores; thin continuous clay films on faces of peds; strongly effervescent; 30 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 9.0); clear smooth boundary.

Btnk2—14 to 21 inches; brown (7.5YR 5/4) silty clay loam, light brown (7.5YR 6/4) dry; moderate fine subangular blocky structure; hard, firm, sticky and plastic; common very fine and fine roots and few medium roots; few very fine tubular pores; thin continuous clay films on faces of peds; strongly effervescent; 35 percent calcium carbonate equivalent; carbonates are disseminated; very strongly alkaline (pH 9.2); clear smooth boundary.

Bnk—21 to 60 inches; brown (7.5YR 5/4) silty clay loam, light brown (7.5YR 6/4) dry; moderate medium subangular blocky structure parting to weak fine columnar; hard, firm, sticky and plastic; few very fine and fine roots; few very fine tubular pores; very strongly effervescent; 31 percent calcium carbonate equivalent; carbonates are disseminated; very strongly alkaline (pH 9.4).

Typical Pedon Location

Map unit in which located: Manassa-Mellor silt loams, 0 to 2 percent slopes

Location in survey area: 900 feet west and 400 feet north of the southeast corner of sec. 27, T. 20 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to natric horizon—5 to 9 inches

Particle-size control section:
Content of clay—27 to 35 percent

E horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 to 4
Texture—silt loam or fine sandy loam
Sodium adsorption ratio—10 to 15
Reaction—moderately alkaline or strongly alkaline

Btnk horizon:
Value—5 or 6 dry, 4 or 5 moist
Chroma—3 or 4
Texture—silty clay loam or clay loam
Sodium adsorption ratio—13 to 35
Reaction—strongly alkaline or very strongly alkaline

Bnk horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 5 or 6 moist
Chroma—3 or 4
Texture—silty clay loam or clay loam
Sodium adsorption ratio—13 to 35
Reaction—strongly alkaline or very strongly alkaline

Memmott Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Slow
Landscape position: Basin floors and alluvial fans
Parent material: Alluvium derived from sandstone and limestone
Slope: 0 to 2 percent
Elevation: 5,200 to 5,600 feet
Average annual precipitation: 10 to 12 inches
Average annual air temperature: 46 to 49 degrees F
Frost-free period: 100 to 130 days

Taxonomic class: Fine-silty, mixed (calcareous), mesic Aquic Torrifluvents

Typical Pedon

A1—0 to 8 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine vesicular pores;

strongly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.

A2—8 to 18 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium roots; few very fine tubular pores; strongly effervescent; 28 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); clear smooth boundary.

Bw—18 to 32 inches; dark brown (10YR 4/3) silty clay loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; strongly effervescent; 21 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); clear smooth boundary.

C1—32 to 52 inches; dark brown (10YR 4/3) silty clay loam, pale brown (10YR 6/3) dry; few distinct dark brown (7.5YR 4/2 and 4/4) mottles; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 5 percent gravel; strongly effervescent; 34 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); clear smooth boundary.

C2—52 to 60 inches; brown (10YR 5/3) silty clay loam, very pale brown (10YR 7/3) dry; few distinct dark brown (7.5YR 4/2 and 4/4) mottles; massive; hard, firm, moderately sticky and moderately plastic; few very fine tubular pores; slightly effervescent; 21 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Memmott silt loam, 0 to 2 percent slopes

Location in survey area: 600 feet south and 300 feet west of the northeast corner of sec. 24, T. 18 S., R. 3 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to water table—25 to 40 inches
Depth to redoximorphic features—23 to 32 inches

Particle-size control section:
Content of clay—27 to 35 percent

Bw and C horizons:
Value—5 to 7 dry, 4 or 5 moist
Chroma—1 to 3
Texture—silty clay loam or silt loam

Musinia Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Alluvial fans and terraces
Parent material: Alluvium derived from sandstone, limestone, and conglomerate
Slope: 0 to 5 percent
Elevation: 4,800 to 5,700 feet
Average annual precipitation: 10 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Fine-silty, mixed, mesic Torrifluventic Haploxerolls

Typical Pedon

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine and fine vesicular pores and common very fine and fine tubular pores; slightly effervescent; 24 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—4 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium roots; common very fine and fine tubular pores and few medium and coarse tubular pores; strongly effervescent; 29 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

Bw1—11 to 22 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and fine tubular pores and few coarse tubular pores; common wormcasts; strongly effervescent; 26 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

Bw2—22 to 36 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and coarse tubular pores; strongly effervescent; 26 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

Bw3—36 to 60 inches; grayish brown (10YR 5/2) silty clay loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; violently effervescent; 29 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Musinia silt loam, 0 to 2 percent slopes

Location in survey area: 3,000 feet west and 1,400 feet north of the southeast corner of sec. 21, T. 18 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Thickness of mollic epipedon—10 to 16 inches

Particle-size control section:
Content of clay—18 to 35 percent

A horizon:
Hue—10YR or 7.5YR
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3

Bw horizon:
Hue—10YR or 7.5YR
Value—5 to 7 dry, 4 to 6 moist
Chroma—2 to 4
Texture—silt loam or silty clay loam
Reaction—moderately alkaline or strongly alkaline

Oakcity Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landscape position: Lake plains and lake terraces
Parent material: Alluvium and lacustrine deposits derived from sedimentary rock
Slope: 0 to 2 percent
Elevation: 4,400 to 5,200 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 45 to 52 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Fine, mixed (calcareous), mesic Xerertic Torriorthents

Typical Pedon

A1—0 to 5 inches; brown (10YR 4/3) loam, pale brown (10YR 6/3 dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine vesicular pores; slightly effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.

A2—5 to 10 inches; brown (10YR 5/3) clay loam, very pale brown (10YR 7/3) dry; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine tubular pores; strongly effervescent; 12 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.

Bw1—10 to 15 inches; brown (10YR 5/3) silty clay loam, very pale brown (10YR 7/3) dry; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common very fine and fine roots; common very fine and fine tubular pores; strongly effervescent; 16 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); clear smooth boundary.

Bw2—15 to 31 inches; pale brown (10YR 6/3) silty clay, very pale brown (10YR 7/3) dry; weak fine subangular blocky structure; hard, firm, sticky and plastic; common very fine and fine roots; common very fine tubular pores; strongly effervescent; 17

percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear smooth boundary.

C1—31 to 47 inches; light yellowish brown (10YR 6/4) silty clay, very pale brown (10YR 7/3) dry; massive; hard, firm, very sticky and very plastic; common very fine and fine roots; common very fine vesicular pores; strongly effervescent; 18 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear wavy boundary.

C2—47 to 60 inches; pale brown (10YR 6/3) silty clay, very pale brown (10YR 7/3) dry; massive; hard, firm, very sticky and very plastic; strongly effervescent; 18 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Oakcity loam, 0 to 2 percent slopes

Location in survey area: 2,400 feet north and 1,200 feet east of the southwest corner of sec. 23, T. 15 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—35 to 50 percent
Calcium carbonate equivalent—15 to 30 percent

A horizon:
Hue—7.5YR or 10YR
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 to 4
Texture—loam or clay loam
Reaction—moderately alkaline or strongly alkaline

Bw and C horizons:
Value—6 or 7 dry, 5 or 6 moist
Chroma—2 to 4
Texture—silty clay loam, silty clay, or clay
Reaction—moderately alkaline to very strongly alkaline
Conductivity of saturation extract—averages 2 to 8 millimhos per centimeter, but ranges to as high as 16 millimhos per centimeter below a depth of 50 inches

Oasis Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Alluvial fans and terraces
Parent material: Alluvium derived from sandstone, shale, and limestone
Slope: 0 to 2 percent
Elevation: 4,700 to 4,800 feet
Average annual precipitation: 8 to 10 inches
Average annual air temperature: 48 to 51 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Coarse-loamy, mixed (calcareous), mesic Xeric Torrifluvents

Typical Pedon

Ap—0 to 5 inches; brown (10YR 5/3) loam, pale brown (10YR 6/3) dry; weak fine granular structure that parts easily to single grain; soft, very friable, nonsticky and nonplastic; few fine roots; few fine and medium vesicular pores; moderately calcareous; carbonates are disseminated; moderately alkaline (pH 8.3); abrupt smooth boundary.

A—5 to 13 inches; brown (10YR 5/3) fine sandy loam, pale brown (10YR 6/3) dry; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many fine roots; many fine continuous tubular pores; moderately calcareous; carbonates are disseminated; strongly alkaline (pH 9.0); abrupt smooth boundary.

C1—13 to 24 inches; brown (10YR 5/3) fine sandy loam, pale brown (10YR 6/3) dry; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few fine continuous tubular pores; strongly calcareous; carbonates are disseminated; very strongly alkaline (pH 9.4); gradual wavy boundary.

C2—24 to 36 inches; yellowish brown (10YR 5/4) very fine sandy loam, light yellowish brown (10YR 6/4) dry; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few fine continuous tubular pores; strongly calcareous; carbonates are disseminated; very strongly alkaline (pH 9.3); clear smooth boundary.

C3—36 to 48 inches; brown (10YR 5/3) very fine sandy loam, pale brown (10YR 6/3) dry; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few fine continuous tubular pores; strongly calcareous; carbonates are disseminated; very strongly alkaline (pH 9.1); abrupt smooth boundary.

C4—48 to 60 inches; grayish brown (10YR 5/2) fine sand, light brownish gray (10YR 6/2) dry; single grain; loose; moderately calcareous; carbonates are disseminated; very strongly alkaline (pH 9.6).

Typical Pedon Location

Map unit in which located: Oasis loam, 0 to 2 percent slopes

Location in survey area: 1,500 feet north and 400 feet east of the southwest corner of sec. 23, T. 15 S., R. 5 W.

Range in Characteristics

Profile:

Depth to bedrock—60 inches or more

Particle-size control section:

Content of clay—7 to 18 percent

Content of rock fragments—0 to 10 percent

A horizon:

Value—5 or 6 dry, 4 or 5 moist

Chroma—2 or 3

Reaction—moderately alkaline or strongly alkaline

C horizon:

Value—5 or 6 dry, 4 or 5 moist

Chroma—2 to 4

Texture—fine sandy loam, very fine sandy loam, or fine sand

Content of gravel—0 to 10 percent

Reaction—moderately alkaline to very strongly alkaline

Pavant Series

Depth class: Shallow

Drainage class: Well drained

Permeability: Moderate

Landscape position: Alluvial fans and fan remnants

Parent material: Alluvium derived from sandstone and limestone

Slope: 2 to 15 percent

Elevation: 5,200 to 6,000 feet

Average annual precipitation: 12 to 16 inches

Average annual air temperature: 45 to 52 degrees F

Frost-free period: 100 to 140 days

Taxonomic class: Loamy, mixed, mesic, shallow Petrocalcic Palexerolls

Typical Pedon

A—0 to 4 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine and medium granular structure; soft, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine vesicular pores; 10 percent gravel; slightly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bk1—4 to 11 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine tubular pores; 10 percent gravel; strongly effervescent; carbonates are disseminated and are segregated in few fine irregular nodules and masses; moderately alkaline (pH 8.4); gradual smooth boundary.

Bk2—11 to 17 inches; brown (10YR 4/3) loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic, many very fine and fine roots; many very fine and fine tubular pores; 10 percent gravel; strongly effervescent; carbonates are disseminated and are segregated in common medium irregular masses; moderately alkaline (pH 8.4); clear smooth boundary.

Bkm—17 inches; indurated calcium carbonate hardpan.

Typical Pedon Location

Map unit in which located: Borvant-Pavant complex, 2 to 15 percent slopes

Location in survey area: 2,300 feet east and 1,800 feet south of the northwest corner of sec. 23, T. 20 S, R. 4 W.

Range in Characteristics

Profile:

Depth to hardpan—12 to 20 inches

Thickness of mollic epipedon—7 to 12 inches

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3

Bk horizon, and Bw horizon, where present:
Hue—7.5YR or 10YR
Value—5 to 8 dry, 3 to 6 moist
Chroma—2 to 4
Content of gravel—0 to 15 percent
Reaction—moderately alkaline or strongly alkaline

Pibler Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Moderately rapid
Landscape position: Alluvial fans and fan remnants
Parent material: Alluvium derived from sandstone, quartzite, and limestone
Slope: 2 to 15 percent
Elevation: 5,200 to 5,900 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 51 degrees F
Frost-free period: 100 to 130 days

Taxonomic class: Loamy-skeletal, mixed, mesic, shallow Calcic Petrocalcids

Typical Pedon

A—0 to 7 inches; dark brown (10YR 4/3) gravelly fine sandy loam, pale brown (10YR 6/3) dry; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots and common medium roots; common very fine and fine tubular pores; 15 percent gravel; strongly effervescent; 17 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

Bk—7 to 12 inches; dark yellowish brown (10YR 4/4) very gravelly loam, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure parting to weak fine granular; soft, very friable, slightly sticky and slightly plastic; common very fine, fine, and medium roots; common very fine and fine tubular pores; 35 percent gravel and 10 percent cobbles; violently effervescent; 27 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in common medium soft masses and as coatings on underside of rock fragments; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bkm—12 inches; indurated calcium carbonate hardpan.

Typical Pedon Location

Map unit in which located: Hiko Peak-Pibler complex, 2 to 15 percent slopes
Location in survey area: 1,300 feet east and 2,100 feet north of the southeast corner of sec. 9, T. 18 S., R. 2 W.

Range in Characteristics

Profile:
Depth to hardpan—10 to 20 inches
Depth to calcic horizon—5 to 11 inches

Particle-size control section:
Content of clay—15 to 27 percent
Content of rock fragments—35 to 60 percent

A horizon:
Value—6 or 7 dry, 3 or 4 moist
Chroma—3 or 4
Content of gravel—15 to 30 percent

Bk horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—3 or 4
Content of rock fragments—30 to 60 percent
Reaction—moderately alkaline or strongly alkaline

Pober Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Alluvial fans and fan remnants
Parent material: Alluvium derived from limestone, sandstone, and quartzite
Slope: 2 to 15 percent
Elevation: 4,700 to 5,600 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Loamy-skeletal, mixed, mesic Calcic Petrocalcids

Typical Pedon

A1—0 to 3 inches; dark brown (10YR 3/3) gravelly loam, dark yellowish brown (10YR 4/4) dry; moderate medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine roots and common medium roots; 15

percent gravel; slightly effervescent; 5 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—3 to 10 inches; dark yellowish brown (10YR 4/4) very cobbly loam, light yellowish brown (10YR 6/4) dry; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and medium roots; few fine pores; 20 percent gravel and 40 percent cobbles; strongly effervescent; 12 percent calcium carbonate equivalent; carbonates are disseminated and are segregated as coatings on underside of peds and rock fragments; strongly alkaline (pH 8.6); clear wavy boundary.

Bk1—10 to 15 inches; yellowish brown (10YR 5/4) very cobbly loam, light yellowish brown (10YR 6/4) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and medium roots; few fine pores; 20 percent gravel and 40 percent cobbles; strongly effervescent; 19 percent calcium carbonate equivalent; carbonates are disseminated and are segregated as coatings on underside of peds and rock fragments; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bk2—15 to 23 inches; light brown (7.5YR 6/4) very cobbly loam, very pale brown (10YR 8/3) dry; moderate medium and coarse subangular blocky structure; extremely hard, very firm, slightly sticky and slightly plastic; 25 percent gravel and 30 percent cobbles; violently effervescent; 34 percent calcium carbonate equivalent; carbonates are disseminated and are segregated as coatings on underside of peds and rock fragments; strongly alkaline (pH 9.0); abrupt wavy boundary.

Bk3—23 to 30 inches; light brown (7.5YR 6/4) very gravelly loam, pink (7.5YR 7/4) dry; massive; very hard, very firm, slightly sticky and slightly plastic; few medium roots; few medium pores; 40 percent gravel and 20 percent cobbles; violently effervescent; 38 percent calcium carbonate equivalent; carbonates are disseminated and are segregated as coatings on underside of peds and rock fragments; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bkm—30 inches; pale brown (10YR 6/3) indurated calcium carbonate hardpan, very pale brown (10YR 8/3) dry.

Typical Pedon Location

Map unit in which located: Pober gravelly loam, 2 to 15 percent slopes

Location in survey area: 2,000 feet east and 2,200 feet north of the southwest corner of sec. 21, T. 16 S., R. 4 W.

Range in Characteristics

Profile:
Depth to hardpan—20 to 40 inches
Depth to calcic horizon—10 to 14 inches

Particle-size control section:
Content of clay—15 to 27 percent
Content of rock fragments—35 to 70 percent

A horizon:
Hue—7.5YR or 10YR
Value—4 to 6 dry, 3 or 4 moist
Chroma—3 or 4
Texture—gravelly loam, very cobbly loam, loamy fine sand, or fine sandy loam
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Hue—7.5YR or 10YR
Value—6 to 8 dry, 5 or 6 moist
Chroma—2 to 4
Texture—very cobbly loam, very gravelly sandy loam, very gravelly loam, extremely cobbly loamy sand, or very cobbly fine sandy loam
Content of rock fragments—35 to 60 percent
Reaction—moderately alkaline or strongly alkaline

Poganeab Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Landscape position: Flood plains and oxbows
Parent material: Alluvium derived from limestone, sandstone, and quartzite
Slope: 0 to 3 percent
Elevation: 4,700 to 4,800 feet
Average annual precipitation: 7 to 12 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed (calcareous), mesic Fluvaquentic Endoaquepts

Typical Pedon

A1—0 to 4 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine vesicular pores;

moderately effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—4 to 9 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; few prominent redoximorphic concentrations that are brown (10YR 5/3 and 7.5YR 5/4) when moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

Bw—9 to 17 inches; grayish brown (10YR 5/2) silty clay loam, light brownish gray (10YR 6/2) dry; few fine prominent redoximorphic concentrations that are brown (10YR 5/3 and 7.5YR 5/4) when moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; strongly effervescent; 5 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

C1—17 to 48 inches; gray (10YR 5/1) silty clay loam, light gray (10YR 7/1) dry; few prominent redoximorphic concentrations that are brown (10YR 5/3 and 7.5YR 5/4) when moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; strongly effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear wavy boundary.

C2—48 to 60 inches; grayish brown (10YR 5/2) sandy loam, light gray (10YR 7/2) dry; massive; soft, friable, slightly sticky and nonplastic; strongly effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8).

Typical Pedon Location

Map unit in which located: Green River-Poganeab complex, 0 to 3 percent slopes

Location in survey area: 350 feet north and 2,100 feet east of the southwest corner of sec. 3, T. 15 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to water table—6 to 20 inches
Depth to redoximorphic features—4 to 20 inches

Particle-size control section:
Content of clay—27 to 35 percent

A horizon:
Value—5 to 7 dry, 4 or 5 moist
Chroma—2 or 3

Bw horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—1 or 2
Texture—silty clay loam stratified with loam and sandy loam
Content of gravel—0 to 10 percent
Reaction—moderately alkaline or strongly alkaline

C horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—1 or 2
Texture—silty clay loam stratified with loam and sandy loam
Content of gravel—0 to 10 percent
Reaction—moderately alkaline or strongly alkaline

Preston Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Landscape position: Dunes
Parent material: Eolian sand derived from lacustrine deposits
Slope: 2 to 30 percent
Elevation: 5,200 to 6,200 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 140 days

Taxonomic class: Mixed, mesic Typic Xeropsamments

Typical Pedon

A—0 to 18 inches; dark yellowish brown (10YR 4/4) fine sand, light yellowish brown (10YR 6/4) dry; single grain; loose, nonsticky and nonplastic; few coarse roots, common fine and medium roots, and many very fine roots; many very fine interstitial pores; very slightly effervescent; 5 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); gradual smooth boundary.

C—18 to 60 inches; dark yellowish brown (10YR 4/4) loamy fine sand, light yellowish brown (10YR 6/4) dry; single grain; loose, nonsticky and nonplastic; few fine and medium roots; many very fine interstitial pores; very slightly effervescent; 7

percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0).

Typical Pedon Location

Map unit in which located: Preston fine sand, 2 to 30 percent slopes
Location in survey area: 4,700 feet north and 700 feet east of the southwest corner of sec. 35, T. 17 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—5 to 10 percent

A horizon:
Value—4 to 6 dry, 3 to 5 moist
Chroma—3 or 4
Reaction—slightly alkaline or moderately alkaline

C horizon:
Value—5 or 6 dry, 4 or 5 moist
Chroma—3 or 4
Texture—loamy fine sand or fine sand
Reaction—slightly alkaline or moderately alkaline

Probert Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Fan remnants
Parent material: Alluvium derived from sandstone, shale, and limestone
Slope: 2 to 8 percent
Elevation: 5,300 to 6,300 feet
Average annual precipitation: 12 to 14 inches
Average annual air temperature: 46 to 51 degrees F
Frost-free period: 100 to 130 days

Taxonomic class: Fine-loamy, mixed, mesic Typic Calcixerolls

Typical Pedon

A—0 to 4 inches; dark brown (7.5YR 3/2) loam, dark brown (7.5YR 4/2) dry; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine vesicular pores; slightly effervescent; 8 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bt—4 to 15 inches; dark brown (7.5YR 3/2) clay loam, dark brown (7.5YR 4/2) dry; weak fine and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; few very fine tubular pores; few patchy clay films on faces of peds and in pores; strongly effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

Btk—15 to 24 inches; dark brown (7.5YR 3/4) clay loam, brown (7.5YR 5/4) dry; weak fine and medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; few continuous clay films on faces of peds and in pores; strongly effervescent; 33 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

Bk1—24 to 34 inches; dark brown (7.5YR 4/4) silty clay loam, brown (7.5YR 5/4) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine tubular pores; 10 percent gravel; violently effervescent; 37 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and filaments; strongly alkaline (pH 9.0); abrupt smooth boundary.

Bk2—34 to 60 inches; brown (7.5YR 5/4) fine sandy loam, light brown (7.5YR 6/4) dry; weak fine subangular blocky structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 10 percent gravel; violently effervescent; 33 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 9.0).

Typical Pedon Location

Map unit in which located: Probert loam, 2 to 8 percent slopes
Location in survey area: 2,200 feet north and 300 feet east of the southeast corner of sec. 22, T. 20 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Depth to calcic horizon—12 to 23 inches
Thickness of mollic epipedon—10 to 19 inches

Particle-size control section:
Content of clay—27 to 35 percent

A horizon:
Hue—7.5YR or 10YR
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Reaction—slightly alkaline or moderately alkaline

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6 dry, 3 to 5 moist
Chroma—2 to 4
Texture—clay loam or silty clay loam
Content of gravel—5 to 15 percent
Calcium carbonate equivalent—10 to 20 percent
Reaction—moderately alkaline or strongly alkaline

Btk horizon:
Hue—7.5YR or 10YR
Value—4 to 6 dry, 3 to 5 moist
Chroma—2 to 4
Texture—clay loam or silty clay loam
Content of gravel—5 to 15 percent
Calcium carbonate equivalent—25 to 35 percent
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Hue—7.5YR or 10YR
Value—5 to 7 dry, 4 to 6 moist
Chroma—3 or 4
Texture—fine sandy loam, loam, silt loam, silty clay loam, or clay loam
Content of gravel—0 to 15 percent
Calcium carbonate equivalent—25 to 40 percent
Reaction—moderately alkaline or strongly alkaline

Puddle Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Lake plains
Parent material: Lacustrine deposits
Slope: 0 to 2 percent
Elevation: 4,600 to 4,800 feet
Average annual precipitation: 6 to 8 inches
Average annual air temperature: 49 to 52 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Coarse-loamy, carbonatic, mesic Petronodic Haplocalcids

Typical Pedon

A—0 to 4 inches; brown (10YR 5/3) fine sandy loam, pale brown (10YR 6/3) dry; strong thick platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few fine tubular pores; strongly effervescent; 17 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.

Bw—4 to 11 inches; yellowish brown (10YR 5/4) fine sandy loam, light yellowish brown (10YR 6/4) dry; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; few fine tubular pores; strongly effervescent; 24 percent calcium carbonate equivalent; carbonates are disseminated; very strongly alkaline (pH 9.2); clear wavy boundary.

Bk1—11 to 36 inches; light yellowish brown (10YR 6/4) loam, very pale brown (10YR 7/3) dry; massive; very hard, firm, slightly sticky and slightly plastic; few very fine roots; few fine tubular pores; 10 percent gravel; strongly effervescent; 46 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in few medium soft masses, in few fine nodules, and as coatings on rock fragments; very strongly alkaline (pH 9.2); clear wavy boundary.

Bk2—36 to 44 inches; light yellowish brown (10YR 6/4) fine sandy loam, very pale brown (10YR 7/3) dry; massive; very hard, firm, nonsticky and nonplastic; few very fine roots; few fine tubular pores; 5 percent gravel and 5 percent cobbles; strongly effervescent; 42 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in few medium soft masses and few fine nodules; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bk3—44 to 60 inches; light yellowish brown (10YR 6/4) fine sandy loam, very pale brown (10YR 7/3) dry; massive; hard, firm, nonsticky and nonplastic; 5 percent gravel; strongly effervescent; 45 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in few medium soft masses, few fine nodules, and few fine filaments; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Yenrab-Puddle complex, 0 to 10 percent slopes
Location in survey area: 1,000 feet west and 1,400 feet south of the northeast corner of sec. 19, T. 18 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches
Depth to calcic horizon—10 to 18 inches

Particle-size control section:
Content of clay—10 to 18 percent

A horizon:
Value—6 or 7 dry, 5 moist
Chroma—3 or 4

Bk horizon:
Value—7 or 8 dry, 6 or 7 moist
Chroma—3 or 4
Texture—loam, fine sandy loam, or sandy loam
Content of gravel—0 to 15 percent
Reaction—strongly alkaline or very strongly alkaline

Scipio Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Landscape position: Flood plains
Parent material: Alluvium derived from limestone, sandstone, and quartzite
Slope: 0 to 2 percent
Elevation: 5,700 to 6,000 feet
Average annual precipitation: 12 to 14 inches
Average annual air temperature: 46 to 51 degrees F
Frost-free period: 100 to 120 days

Taxonomic class: Fine-loamy, mixed (calcareous), mesic Fluvaquentic Endoaquolls

Typical Pedon

A1—0 to 5 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 5/3) dry; weak fine and medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots; few very fine vesicular pores; violently effervescent; 8 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—5 to 11 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine granular structure parting to weak fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, and medium roots; few very fine tubular pores; violently effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

A3—11 to 21 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; few distinct brown (7.5YR 5/4) and strong brown (7.5YR 5/6) redoximorphic concentrations; weak fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine, fine, and medium roots; few very fine tubular pores; strongly effervescent; 12 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.

C1—21 to 36 inches; dark yellowish brown (10YR 4/4) sandy loam, light yellowish brown (10YR 6/4) dry; common prominent yellowish red (5YR 5/6) redoximorphic concentrations; massive; loose, nonsticky and nonplastic; common very fine and fine roots and few medium roots; strongly effervescent; 14 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.

C2—36 to 60 inches; dark grayish brown (10YR 4/2) silt loam, grayish brown (10YR 5/2) dry; few distinct brown (7.5YR 5/4) and strong brown (7.5YR 5/6) redoximorphic concentrations; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; strongly effervescent; 9 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4).

Typical Pedon Location

Map unit in which located: Benstot-Scipio complex, 0 to 2 percent slopes
Location in survey area: 2,800 feet north and 2,300 feet west of the southeast corner of sec. 22, T. 20 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to seasonal high water table—12 to 20 inches
Depth to redoximorphic features—10 to 18 inches
Thickness of mollic epipedon—10 to 22 inches

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3
Texture—loam or silt loam

C horizon:
Hue—7.5YR or 10YR
Value—5 or 6 dry, 3 or 4 moist
Chroma—2 to 4
Texture—silt loam, loam, silty clay loam, or sandy loam
Reaction—moderately alkaline or strongly alkaline

Searla Series

Depth class: Deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Hills and alluvial fans
Parent material: Alluvium derived from limestone, sandstone, and quartzite
Slope: 15 to 30 percent
Elevation: 5,800 to 7,000 feet
Average annual precipitation: 16 to 18 inches
Average annual air temperature: 43 to 45 degrees F
Frost-free period: 80 to 100 days

Taxonomic class: Loamy-skeletal, mixed, frigid Calcic Argixerolls

Typical Pedon

A—0 to 3 inches; very dark grayish brown (10YR 3/2) gravelly silt loam, dark brown (10YR 4/3) dry; weak very fine and fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine and fine interstitial pores; 15 percent gravel; slightly alkaline (pH 7.4); clear smooth boundary.

Bt1—3 to 7 inches; very dark grayish brown (10YR 3/2) very gravelly silt loam, dark brown (10YR 4/3) dry; moderate medium and coarse subangular blocky structure; soft, friable, slightly sticky and slightly plastic; many fine and medium roots and few coarse roots; many fine to coarse tubular pores; very dark grayish brown (10YR 3/2) organic coatings; common thin clay films on faces of peds and in pores; 35 percent gravel and 10 percent cobbles; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—7 to 12 inches; dark brown (10YR 3/3) very cobbly silty clay loam, dark brown (10YR 4/3) dry; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many medium roots and common fine and coarse roots; many fine and medium tubular pores and few coarse tubular pores; common thin clay films on faces of peds and in pores; 15 percent gravel and 25 percent cobbles; strongly effervescent; carbonates are disseminated and are segregated in spherical nodules; slightly alkaline (pH 7.8); clear wavy boundary.

Bk1—12 to 16 inches; brown (10YR 5/3) very cobbly silty clay loam, yellowish brown (10YR 5/4) dry; weak coarse subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; common medium and coarse roots and few fine roots; common fine and medium tubular pores; 15 percent gravel and 30 percent cobbles; strongly effervescent; carbonates are disseminated and are segregated in soft masses and coatings on rock fragments; slightly alkaline (pH 7.8); gradual wavy boundary.

Bk2—16 to 23 inches; pale brown (10YR 6/3) very cobbly silt loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and medium roots and few coarse roots; common fine and medium tubular pores; 25 percent cobbles and 20 percent gravel; strongly effervescent; carbonates are disseminated and are segregated in coatings on rock fragments; slightly alkaline (pH 7.8); gradual wavy boundary.

Bk3—23 to 50 inches; light yellowish brown (10YR 6/4) very cobbly silt loam, very pale brown (10YR 8/3) dry; massive; soft, very friable, slightly sticky and slightly plastic; common fine and medium roots and few coarse roots; few fine and medium tubular pores; 20 percent gravel, 25 percent cobbles, and 10 percent stones; strongly effervescent; carbonates are disseminated and are segregated in coatings on rock fragments; slightly alkaline (pH 7.8); clear smooth boundary.

R—50 inches; bedrock.

Typical Pedon Location

Map unit in which located: Searla-Kapod complex, 15 to 30 percent slopes
Location in survey area: 400 feet west and 400 feet south of the northeast corner of sec. 28, T. 19 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—40 to 60 inches
Depth to argillic horizon—3 to 10 inches
Depth to calcic horizon—12 to 19 inches
Thickness of mollic epipedon—10 to 16 inches

Particle-size control section:
Content of clay—27 to 35 percent
Content of rock fragments—50 to 60 percent

A horizon:
Value—4 or 5 dry
Chroma—2 or 3

Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5 dry, 3 or 4 moist
Chroma—2 or 3
Texture—very gravelly silt loam or very cobbly silty clay loam
Content of rock fragments—40 to 60 percent
Reaction—slightly alkaline or moderately alkaline

Bk horizon:
Value—5 to 8 dry, 5 to 7 moist
Chroma—3 or 4
Content of rock fragments—30 to 60 percent
Reaction—slightly alkaline or moderately alkaline

Shotwell Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Moderate
Landscape position: Quaternary and Tertiary lava flows
Parent material: Residuum derived from igneous rock, primarily basalt and cinders
Slope: 2 to 20 percent
Elevation: 4,600 to 5,600 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 110 to 150 days

Taxonomic class: Loamy, mixed (calcareous), mesic Lithic Xeric Torriorthents

Typical Pedon

A—0 to 3 inches; dark yellowish brown (10YR 4/4) very cobbly loam, brown (10YR 5/3) dry; weak thin platy structure parting to weak fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium roots; 10 percent gravel and 30 percent cobbles; slightly effervescent; 14 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw—3 to 14 inches; yellowish brown (10YR 5/4) loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium roots; many very fine and fine tubular pores; 15 percent cobbles; strongly effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt wavy boundary.

R—14 inches; basalt.

Typical Pedon Location

Map unit in which located: Lava flows-Shotwell complex, 0 to 8 percent slopes
Location in survey area: 1,700 feet west and 700 feet south of the northeast corner of sec. 9, T. 22 S., R. 6 W.

Range in Characteristics

Profile:
Depth to bedrock—10 to 20 inches

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Value—5 or 6 dry, 3 or 4 moist
Chroma—3 or 4
Content of cobbles—35 to 45 percent
Reaction—moderately alkaline or strongly alkaline

Bw horizon, and C horizon, where present:
Value—5 or 6 dry, 4 or 5 moist
Chroma—3 or 4
Content of rock fragments—5 to 15 percent
Reaction—moderately alkaline or strongly alkaline

Soma Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Moderate
Landscape position: Hillslopes
Parent material: Colluvium and residuum derived from limestone, sandstone, and quartzite
Slope: 30 to 60 percent
Elevation: 4,800 to 6,400 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 45 to 51 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Loamy-skeletal, mixed, mesic Lithic Xeric Haplocalcids

Typical Pedon

A1—0 to 2 inches; dark brown (10YR 4/3) very cobbly loam, pale brown (10YR 6/3) dry; moderate medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine vesicular pores; 20 percent gravel and 20 percent cobbles; slightly effervescent; 5 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); abrupt smooth boundary.

Bw—2 to 6 inches; dark brown (10YR 4/3) very cobbly loam, pale brown (10YR 6/3) dry; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and medium roots; few very fine tubular pores; 30 percent gravel and 20 percent cobbles; strongly effervescent; 7 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear smooth boundary.

Bk1—6 to 14 inches; dark brown (10YR 4/3) extremely cobbly loam, light yellowish brown (10YR 6/4) dry; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; few very fine tubular pores; 30 percent gravel and 35 percent cobbles; strongly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and as coatings on underside of rock fragments; strongly alkaline (pH 8.8); gradual wavy boundary.

Bk2—14 to 18 inches; dark brown (10YR 4/3) extremely cobbly loam, light yellowish brown (10YR 6/4) dry; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; 10 percent gravel and 60 percent cobbles; slightly effervescent; 30 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and as coatings on underside of rock fragments; strongly alkaline (pH 8.6); clear smooth boundary.

R—18 inches; sandstone.

Typical Pedon Location

Map unit in which located: Rock outcrop-Soma complex, 30 to 60 percent slopes

Location in survey area: 2,100 feet south and 200 feet east of the northwest corner of sec. 1, T. 15 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—15 to 20 inches
Depth to calcic horizon—6 to 10 inches

Particle-size control section:
Content of clay—10 to 18 percent
Content of rock fragments—35 to 70 percent

A horizon:
Value—3 or 4 moist
Chroma—2 or 3
Content of rock fragments—40 to 45 percent
Reaction—moderately alkaline or strongly alkaline

Bw horizon:
Value—6 or 7 dry, 3 or 4 moist
Chroma—3 or 4
Texture—extremely cobbly loam or very cobbly loam
Content of rock fragments—35 to 65 percent
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Value—6 to 8 dry, 4 or 5 moist
Chroma—3 or 4
Texture—extremely cobbly loam or very cobbly loam
Content of rock fragments—35 to 75 percent

Sonlet Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Moderate
Landscape position: Mountain slopes
Parent material: Colluvium and residuum derived from sandstone
Slope: 30 to 60 percent
Elevation: 6,200 to 7,200 feet
Average annual precipitation: 12 to 16 inches
Average annual air temperature: 42 to 45 degrees F
Frost-free period: 80 to 100 days

Taxonomic class: Loamy-skeletal, mixed, frigid Lithic Xerochrepts

Typical Pedon

A—0 to 4 inches; dark grayish brown (10YR 4/2) extremely stony loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; few medium and coarse roots and many very fine and fine roots; 15 percent stones, 40 percent cobbles, and 15 percent gravel; strongly effervescent; 24 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); gradual wavy boundary.

Bk1—4 to 10 inches; dark brown (10YR 4/3) very cobbly loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few medium and coarse roots and many very fine and fine roots; few very fine tubular pores; 15 percent gravel and 40 percent cobbles; violently effervescent; 29 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and as coatings on underside of rock fragments; moderately alkaline (pH 8.4); clear smooth boundary.

Bk2—10 to 19 inches; brown (10YR 5/3) extremely cobbly loam, very pale brown (10YR 7/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; 20 percent gravel and 45 percent cobbles; violently effervescent; 26 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in masses and as coatings on underside of rock fragments; strongly alkaline (pH 8.6); abrupt wavy boundary.

R—19 inches; sandstone.

Typical Pedon Location

Map unit in which located: Atepic-Sonlet association, 30 to 60 percent slopes

Location in survey area: 1,900 feet west and 2,600 feet south of the northeast corner of sec. 3, T. 18 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—10 to 20 inches
Depth to calcic horizon—2 to 4 inches

Particle-size control section:
Content of clay—12 to 18 percent
Content of rock fragments—35 to 65 percent

A horizon:
Value—5 or 6 dry, 4 or 5 moist
Chroma—2 or 3
Content of rock fragments—60 to 80 percent

Bk horizon:
Value—6 or 7 dry, 4 to 6 moist
Chroma—3 or 4
Texture—very cobbly loam or extremely cobbly loam
Content of rock fragments—35 to 65 percent
Reaction—moderately alkaline or strongly alkaline

Spager Series

Depth class: Shallow
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Landscape position: Fan remnants and hillslopes
Parent material: Alluvium derived from quartzite and limestone
Slope: 5 to 20 percent
Elevation: 5,300 to 6,300 feet
Average annual precipitation: 10 to 12 inches
Average annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 120 days

Taxonomic class: Loamy-skeletal, carbonatic, mesic, shallow Calcic Petrocalcids

Typical Pedon

A1—0 to 2 inches; dark brown (10YR 3/3) gravelly very fine sandy loam, pale brown (10YR 6/3) dry; weak thick platy structure parting to moderate fine granular; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine interstitial pores; 20 percent gravel; strongly effervescent; 42 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

A2—2 to 5 inches; dark brown (10YR 3/3) very gravelly very fine sandy loam, pale brown (10YR 6/3) dry; moderate fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine interstitial pores; 40 percent gravel; strongly effervescent; 49 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); clear wavy boundary.

Bk—5 to 11 inches; dark yellowish brown (10YR 4/4) very gravelly very fine sandy loam, light yellowish brown (10YR 6/4) dry; weak fine and medium granular structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many fine interstitial pores; violently effervescent; 65 percent calcium carbonate equivalent;

carbonates are disseminated and are segregated in masses and filaments; 60 percent gravel; strongly alkaline (pH 9.0); abrupt wavy boundary.

Bkm—11 inches; very pale brown (10YR 7/3) indurated calcium carbonate hardpan, white (10YR 8/2) dry; roots matted on surface; violently effervescent; strongly alkaline (pH 9.0).

Typical Pedon Location

Map unit in which located: Spager gravelly very fine sandy loam, 5 to 15 percent slopes

Location in survey area: 3,000 feet south and 5,000 feet east of the northwest corner of sec. 4, T. 19 S., R. 4 W.

Range in Characteristics

Profile:

Depth to hardpan—10 to 20 inches

Depth to calcic horizon—5 to 10 inches

Particle-size control section:

Content of clay—15 to 18 percent

Content of rock fragments—35 to 60 percent

A horizon:

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3

Texture—gravelly very fine sandy loam or very gravelly very fine sandy loam

Content of rock fragments—15 to 40 percent

Reaction—moderately alkaline or strongly alkaline

Bk horizon:

Value—6 to 8 dry, 4 or 5 moist

Chroma—2 to 4

Content of gravel—35 to 60 percent

Reaction—strongly alkaline or very strongly alkaline

Bkm horizon:

Value—7 or 8 dry, 6 or 7 moist

Chroma—2 or 3

Sterling Series

Depth class: Very deep

Drainage class: Well drained

Permeability: Moderately rapid

Landscape position: Fan remnants

Parent material: Alluvium derived from limestone, sandstone, and quartzite

Slope: 2 to 10 percent

Elevation: 5,900 to 6,300 feet

Average annual precipitation: 12 to 14 inches

Average annual air temperature: 46 to 51 degrees F

Frost-free period: 100 to 140 days

Taxonomic class: Loamy-skeletal, mixed, mesic Typic Calcixerolls

Typical Pedon

A1—0 to 4 inches; dark brown (7.5YR 3/2) loam, dark brown (7.5YR 4/2) dry; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots and few medium and coarse roots; 10 percent gravel; moderately alkaline (pH 8.2); abrupt smooth boundary.

A2—4 to 11 inches; dark brown (7.5YR 3/2) very gravelly loam, dark brown (7.5YR 4/2) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium and coarse roots; many very fine and fine tubular pores; 30 percent gravel and 5 percent cobbles; slightly effervescent; 7 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw—11 to 18 inches; dark brown (7.5YR 3/4) very gravelly loam, brown (7.5YR 5/4) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine tubular pores; 45 percent gravel and 15 percent cobbles; strongly effervescent; 9 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk—18 to 29 inches; dark brown (7.5YR 4/4) very gravelly loam, light brown (7.5YR 6/4) dry; massive; soft, friable, slightly sticky and slightly plastic; few very fine and fine roots; 45 percent gravel and 15 percent cobbles; violently effervescent; 16 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in few fine veins and as coatings on rock fragments; strongly alkaline (pH 8.6); clear smooth boundary.

C—29 to 60 inches; brown (7.5YR 5/4) very gravelly sandy loam, light brown (7.5YR 6/4) dry; massive; loose, very friable, nonsticky and nonplastic; few very fine and fine roots; 45 percent gravel and 15 percent cobbles; strongly effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Sterling loam, 2 to 10 percent slopes

Location in survey area: 2,100 feet west and 1,600 feet north of the southeast corner of sec. 9, T. 20 S., R. 2 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—18 to 24 inches
Thickness of mollic epipedon—10 to 15 inches

Particle-size control section:
Content of clay—18 to 24 percent
Content of rock fragments—35 to 60 percent

A horizon:
Hue—7.5 or 10YR
Value—4 or 5 dry, 2 or 3 moist
Chroma—2 or 3
Texture—loam, gravelly loam, or very gravelly loam
Content of rock fragments—5 to 35 percent

Bw horizon:
Hue—7.5YR or 10YR
Value—3 or 4 moist
Chroma—2 to 4
Content of rock fragments—35 to 60 percent
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Hue—7.5YR or 10YR
Value—5 or 6 dry, 3 to 5 moist
Chroma—2 to 4
Content of rock fragments—35 to 60 percent
Reaction—moderately alkaline or strongly alkaline

C horizon:
Content of rock fragments—50 to 60 percent

Taylorsflat Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Alluvial flats, lake plains, and lake terraces
Parent material: Alluvium and lacustrine deposits derived from sedimentary rock
Slope: 0 to 5 percent
Elevation: 4,700 to 5,200 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 45 to 52 degrees F
Frost-free period: 120 to 150 days

Taxonomic class: Fine-loamy, mixed, mesic Xeric Haplocalcids

Typical Pedon

A—0 to 5 inches; brown (10YR 4/3) loam, pale brown (10YR 6/3) dry; moderate medium and fine granular structure; hard, friable, slightly sticky and slightly plastic; few fine and medium roots; strongly effervescent; moderately alkaline (pH 8.3); clear wavy boundary.

Bw—5 to 20 inches; brown (10YR 5/3) loam, very pale brown (10YR 7/3) dry; weak medium and fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few fine and medium roots; few fine pores; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk—20 to 33 inches; light yellowish brown (10YR 6/4) silty clay loam, very pale brown (10YR 8/3) dry; massive; hard, firm, slightly sticky and slightly plastic; few fine roots; few fine pores; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

2C—33 to 72 inches; light brownish gray (10YR 6/2) silty clay loam (lacustrine sediment), light gray (10YR 7/2) dry; few fine yellowish brown (10YR 5/6) redoximorphic concentrations below a depth of 48 inches; massive; very hard, firm, sticky and plastic; few gypsum flakes and crystals; violently effervescent; strongly alkaline (pH 9.0).

Typical Pedon Location

Map unit in which located: Taylorsflat loam, 0 to 2 percent slopes
Location in survey area: 1,400 feet east and 1,500 feet south of the northeast corner of sec. 2, T. 16 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—9 to 24 inches

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Hue—10YR or 7.5YR
Value—5 or 6 dry, 3 or 4 moist
Chroma—2 or 3
Reaction—moderately alkaline or strongly alkaline

Bw horizon:
Hue—10YR or 7.5YR
Value—5 to 7 dry, 4 or 5 moist

Chroma—3 or 4
Reaction—moderately alkaline or strongly alkaline

Bk horizon:
Hue—10YR or 7.5YR
Value—6 to 8 dry, 5 or 6 moist
Chroma—2 to 4
Texture—loam, silt loam, or silty clay loam
Reaction—moderately alkaline or strongly alkaline

2C horizon:
Hue—10YR or 7.5YR
Value—6 to 8 dry, 5 or 6 moist
Chroma—2 to 4
Texture—loam, silt loam, or silty clay loam with thin gravelly layers in some pedons
Reaction—moderately alkaline or strongly alkaline

Thiokol Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Lake terraces
Parent material: Lacustrine deposits
Slope: 0 to 5 percent
Elevation: 4,750 to 4,950 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 100 to 150 days

Taxonomic class: Fine-silty, mixed, mesic Sodic Xeric Haplocalcids

Typical Pedon

A—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine vesicular pores; strongly effervescent; 9 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear smooth boundary.

Bw—5 to 13 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; strongly effervescent; 15 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk1—13 to 29 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; 36 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses; strongly alkaline (pH 8.6); clear smooth boundary.

Bk2—29 to 45 inches; brown (10YR 5/3) silt loam, light gray (10YR 7/2) dry; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine tubular pores; strongly effervescent; 30 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in soft masses; strongly alkaline (pH 8.6); gradual smooth boundary.

C—45 to 60 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine tubular pores; strongly effervescent; 25 percent calcium carbonate equivalent; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Thiokol silt loam, 0 to 5 percent slopes
Location in survey area: 1,300 feet south and 200 feet west of the northeast corner of sec. 14, T. 23 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to calcic horizon—13 to 22 inches

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 or 3
Reaction—moderately alkaline or strongly alkaline

Bw horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 or 3
Reaction—moderately alkaline or strongly alkaline

Bk or C horizon:
Value—7 or 8 dry, 5 or 6 moist
Chroma—2 to 4
Reaction—strongly alkaline or very strongly alkaline

Timpie Series

Depth class: Very deep
Drainage class: Well drained

Permeability: Moderately slow
Landscape position: Lake plains and lake terraces
Parent material: Alluvium and lacustrine deposits derived from sedimentary rock
Slope: 0 to 2 percent
Elevation: 4,700 to 4,900 feet
Average annual precipitation: 6 to 8 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Fine-silty, mixed (calcareous), mesic Typic Torriorthents

Typical Pedon

A—0 to 5 inches; dark brown (10YR 4/3) fine sandy loam, pale brown (10YR 6/3) dry; weak fine granular structure; soft, friable, nonsticky and nonplastic; few very fine and fine roots; few very fine vesicular pores; strongly effervescent; 7 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

Bw1—5 to 11 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; few very fine tubular pores; strongly effervescent; 8 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); clear wavy boundary.

Bw2—11 to 17 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; few very fine and fine tubular pores; violently effervescent; 12 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); clear smooth boundary.

C1—17 to 35 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; strongly effervescent; 12 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); gradual wavy boundary.

C2—35 to 60 inches; brown (7.5YR 5/4) silt loam, light brown (7.5YR 6/4) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; strongly effervescent; 13 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.5).

Typical Pedon Location

Map unit in which located: Timpie fine sandy loam, 0 to 2 percent slopes
Location in survey area: 1,100 feet west and 1,400 feet south of the northeast corner of sec. 22, T. 15 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—18 to 27 percent

A horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 or 3
Reaction—moderately alkaline or strongly alkaline

Bw and C horizons:
Hue—10YR or 7.5YR
Value—6 or 7 dry, 4 to 6 moist
Chroma—2 to 4
Reaction—moderately alkaline or strongly alkaline

Tooele Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Landscape position: Lake plains
Parent material: Lacustrine deposits
Slope: 0 to 3 percent
Elevation: 4,700 to 4,800 feet
Average annual precipitation: 6 to 8 inches
Average annual air temperature: 49 to 52 degrees F
Frost-free period: 130 to 140 days

Taxonomic class: Coarse-loamy, mixed (calcareous), mesic Typic Torriorthents

Typical Pedon

A—0 to 4 inches; dark grayish brown (10YR 4/2) loamy fine sand, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure parting to single grain; loose, nonsticky and nonplastic; many very fine and fine roots and few medium roots; very slightly effervescent; 8 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw1—4 to 20 inches; dark brown (10YR 4/3) loamy fine sand, pale brown (10YR 6/3) dry; weak coarse subangular blocky structure parting to single grain; soft, very friable, nonsticky and nonplastic; many very fine and fine roots and few medium roots; violently effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); gradual wavy boundary.

Bw2—20 to 31 inches; brown (10YR 5/3) fine sandy loam, pale brown (10YR 6/3) dry; weak medium and coarse subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine and fine roots; violently effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); gradual wavy boundary.

Bw3—31 to 39 inches; brown (10YR 5/3) fine sandy loam, light brownish gray (10YR 6/2) dry; weak medium and coarse subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine and fine roots; violently effervescent; strongly alkaline (pH 8.6); 20 percent calcium carbonate equivalent; clear wavy boundary.

C—39 to 60 inches; dark grayish brown (10YR 4/2) loamy fine sand, light brownish gray (10YR 6/2) dry; single grain; loose, nonsticky and nonplastic; violently effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Tooele loamy fine sand, 0 to 3 percent slopes

Location in survey area: 2,000 feet west and 1,800 feet south of the northeast corner of sec. 9, T. 15 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—5 to 15 percent
Content of rock fragments—0 to 15 percent

A horizon:
Value—6 or 7 dry, 4 or 5 moist
Chroma—2 or 3

Bw and C horizons:
Hue—10YR or 2.5Y
Value—6 or 7 dry, 4 to 6 moist
Chroma—2 or 3
Texture—loamy fine sand or fine sandy loam
Reaction—moderately alkaline or strongly alkaline

Uffens Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Landscape position: Lake plains and relict stream terraces
Parent material: Alluvium and lacustrine deposits
Slope: 0 to 8 percent
Elevation: 4,700 to 4,800 feet
Average annual precipitation: 6 to 8 inches
Average annual air temperature: 49 to 52 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, mesic Typic Natrargids

Typical Pedon

E1—0 to 3 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thin platy structure parting to weak fine granular; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots and few medium roots; strongly effervescent; 14 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt smooth boundary.

E2—3 to 7 inches; dark grayish brown (10YR 4/2) loam, pale brown (10YR 6/3) dry; weak medium and coarse subangular blocky structure; hard, friable, slightly sticky and plastic; common very fine and fine roots and few medium roots; strongly effervescent; 20 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); clear smooth boundary.

Btn—7 to 13 inches; dark brown (10YR 4/3) clay loam, pale brown (10YR 6/3) dry; weak medium prismatic structure; very hard, firm, slightly sticky and slightly plastic; common fine to coarse roots; few fine tubular pores; many thin clay films on faces of peds; strongly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; very strongly alkaline (pH 9.2); clear wavy boundary.

C1—13 to 27 inches; brown (10YR 5/3) loam, very pale brown (10YR 7/3) dry; weak coarse rocklike structure; hard, friable, slightly sticky and slightly plastic; few fine and medium roots; few fine tubular pores; strongly effervescent; 26 percent calcium carbonate equivalent; carbonates are disseminated; very strongly alkaline (pH 9.4); gradual wavy boundary.

C2—27 to 60 inches; brown (10YR 5/4) loam, very pale brown (10YR 7/3) dry; weak coarse rocklike structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and medium roots; strongly effervescent; 22 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6).

Typical Pedon Location

Map unit in which located: Uffens silt loam, 2 to 8 percent slopes
Location in survey area: 1,400 feet east and 1,700 feet south of the northwest corner of sec. 4, T. 16 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to natric horizon—1 inch to 7 inches

Particle-size control section:
Content of clay—27 to 35 percent

E horizon:
Value—5 to 7 dry, 4 or 5 moist
Chroma—2 or 3
Texture—silt loam, loam, or loamy fine sand
Reaction—moderately alkaline or strongly alkaline

Btn horizon:
Hue—10YR or 7.5YR
Value—5 to 7 dry, 4 or 5 moist
Chroma—2 to 4
Content of gravel—0 to 10 percent
Reaction—strongly alkaline or very strongly alkaline

C horizon:
Hue—10YR or 7.5YR
Value—6 or 7 dry, 4 to 6 moist
Chroma—2 to 4
Texture—silt loam, loam, or fine sandy loam
Reaction—moderately alkaline to very strongly alkaline

Uvada Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Very slow
Landscape position: Lake plains
Parent material: Lacustrine deposits
Slope: 0 to 2 percent
Elevation: 4,600 to 5,000 feet
Average annual precipitation: 6 to 8 inches
Average annual air temperature: 48 to 52 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Fine, montmorillonitic, mesic Typic Natrargids

Typical Pedon

A1—0 to 4 inches; yellowish brown (10YR 5/4) clay loam, very pale brown (10YR 7/3) dry; moderate medium platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and common fine vesicular pores; slightly effervescent; 12 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); clear wavy boundary.

A2—4 to 8 inches; yellowish brown (10YR 5/4) clay loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and few fine vesicular pores; slightly effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

A3—8 to 11 inches; yellowish brown (10YR 5/4) clay loam, very pale brown (10YR 8/3) dry; weak fine subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine roots; common very fine pores; strongly effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.8); abrupt smooth boundary.

Btn1—11 to 20 inches; light yellowish brown (10YR 6/4) silty clay loam, very pale brown (10YR 7/4) dry; strong medium prismatic structure parting to weak medium subangular blocky; hard, friable, sticky and plastic; few very fine roots; few very fine pores; few thin clay films on faces of peds; slightly effervescent; 23 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 9.0); abrupt smooth boundary.

Btn2—20 to 23 inches; yellowish brown (10YR 5/4) silty clay, pale brown (10YR 6/3) dry; moderate medium prismatic structure; hard, friable, sticky and plastic; few very fine roots; few very fine pores; few thin clay films on faces of peds; slightly effervescent; 23 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 9.0); clear smooth boundary.

Btn3—23 to 43 inches; yellowish brown (10YR 5/4) silty clay loam, very pale brown (10YR 7/4) dry; moderate medium angular blocky structure; very hard, firm, sticky and plastic; few very fine roots; few very fine pores; few thin clay films on faces of peds; slightly effervescent; 15 percent calcium carbonate equivalent; carbonates are disseminated and are segregated in few soft masses; strongly alkaline (pH 9.0); clear smooth boundary.

C—43 to 60 inches; yellowish brown (10YR 5/4) silty clay loam, very pale brown (10YR 7/3) dry; few medium reddish yellow (5YR 6/8) prominent redoximorphic concentrations; moderate coarse rocklike structure; extremely hard, firm, sticky and plastic; few very fine roots; slightly effervescent; 18 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 9.0).

Typical Pedon Location

Map unit in which located: Uvada clay loam, 0 to 2 percent slopes

Location in survey area: 1,000 feet east and 1,900 feet north of the southwest corner of sec. 31, T. 17 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Depth to natric horizon—7 to 20 inches

Particle-size control section:
Content of clay—35 to 50 percent

A horizon:
Hue—10YR or 7.5YR
Value—6 to 8 dry, 4 or 5 moist
Chroma—2 to 4
Texture—clay loam, loam, silt loam, or very fine sandy loam
Reaction—moderately alkaline to very strongly alkaline
Sodium adsorption ratio—5 to 10

Btn horizon:
Hue—7.5YR or 10YR
Value—5 to 7 dry, 4 to 6 moist
Chroma—3 or 4
Texture—silty clay loam or silty clay
Reaction—strongly alkaline or very strongly alkaline
Sodium adsorption ratio—40 to 65

C horizon:
Hue—10YR or 7.5YR
Value—6 or 7 dry, 5 or 6 moist
Chroma—2 to 4
Texture—dominantly silty clay loam or silty clay, but loamy fine sand below a depth of 40 inches in some pedons
Reaction—strongly alkaline or very strongly alkaline
Sodium adsorption ratio—40 to 65

Woodrow Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landscape position: Lake terraces
Parent material: Alluvium and lacustrine deposits derived from limestone and sandstone
Slope: 0 to 2 percent
Elevation: 4,600 to 4,900 feet
Average annual precipitation: 8 to 12 inches
Average annual air temperature: 47 to 52 degrees F
Frost-free period: 110 to 140 days

Taxonomic class: Fine-silty, mixed (calcareous), mesic Xeric Torrifluvents

Typical Pedon

Ap—0 to 5 inches; brown (10YR 4/3) silty clay loam, pale brown (10YR 6/3) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots and common medium roots; few very fine and fine vesicular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—5 to 16 inches; brown (10YR 4/3) silty clay loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; slightly hard, firm, sticky and plastic; many very fine and fine roots and common medium roots; few very fine and fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

C1—16 to 25 inches; brown (10YR 5/3) silty clay loam, very pale brown (10YR 7/3) dry; massive; hard, firm, sticky and plastic; many very fine and fine roots and common medium roots; few fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

C2—25 to 39 inches; pale brown (10YR 6/3) silty clay loam, very pale brown (10YR 7/3) dry; massive; hard, firm, sticky and plastic; common very fine and fine roots; few very fine and fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

C2—39 to 60 inches; pale brown (10YR 6/3) silty clay loam, very pale brown (10YR 7/3) dry; massive; slightly hard, friable, sticky and plastic; few very fine tubular pores; strongly effervescent; carbonates are disseminated; strongly alkaline (pH 8.6)

Typical Pedon Location

Map unit in which located: Woodrow silty clay loam, 0 to 2 percent slopes
Location in survey area: 1,500 feet east and 3,400 feet south of the northeast corner of sec. 1, T. 15 S., R. 4 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more

Particle-size control section:
Content of clay—27 to 35 percent

A horizon:
Hue—10YR or 7.5YR
Value—5 to 7 dry, 4 to 6 moist
Chroma—2 or 3
Texture—silt loam or silty clay loam
Reaction—slightly alkaline to strongly alkaline

C horizon:
Hue—10YR or 7.5YR
Value—6 to 8 dry, 4 to 7 moist
Chroma—2 to 4
Texture—silty clay loam with thin strata of clay loam and silt loam in some pedons
Reaction—moderately alkaline or strongly alkaline

Yenrab Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid
Landscape position: Dunes on lake terraces and lake plains
Parent material: Eolian material derived from lacustrine deposits
Slope: 0 to 10 percent
Elevation: 4,600 to 5,000 feet
Average annual precipitation: 6 to 8 inches
Average annual air temperature: 49 to 52 degrees F
Frost-free period: 120 to 140 days

Taxonomic class: Mixed, mesic Typic Torripsamments

Typical Pedon

A—0 to 5 inches; yellowish brown (10YR 5/4) loamy fine sand, very pale brown (10YR 7/3) dry; single grain; loose, nonsticky and nonplastic; common very fine roots; slightly effervescent; 7 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); carbonates are disseminated; clear smooth boundary.

C1—5 to 45 inches; yellowish brown (10YR 5/4) loamy sand, very pale brown (10YR 7/3) dry; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; slightly effervescent; 7 percent calcium carbonate equivalent; carbonates are disseminated; strongly alkaline (pH 8.6); gradual smooth boundary.

C2—45 to 60 inches; yellowish brown (10YR 5/4) loamy sand, very pale brown (10YR 7/3) dry; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; slightly effervescent; 10 percent calcium carbonate equivalent; carbonates are disseminated; moderately alkaline (pH 8.2).

Typical Pedon Location

Map unit in which located: Yenrab-Uvada complex, 0 to 10 percent slopes
Location in survey area: 2,200 feet west and 400 feet north of the southeast corner of sec. 32, T. 16 S., R. 5 W.

Range in Characteristics

Profile:
Depth to bedrock—60 inches or more
Sodium adsorption ratio—15 to 30

Particle-size control section:
Content of clay—5 to 10 percent

A and C horizons:
Value—6 or 7 dry, 4 to 6 moist
Chroma—2 to 4
Texture—loamy sand, sand, fine sand, or loamy fine sand
Reaction—moderately alkaline or strongly alkaline

Agronomy

General management considerations for crops, hay, and pasture are described in this section. The system of land capability classification used by the Natural Resources Conservation Service is explained, the estimated yields of the main crops and pasture plants are listed for each soil, and prime farmland and other important farmland are described.

Planners of management systems for individual fields or farms can obtain more specific information from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Crops and Pasture

The main irrigated crops grown in this survey area are alfalfa, barley, wheat, corn for silage, and potatoes. Some pastureland is also irrigated. Much of the area is used as nonirrigated cropland and pastureland. Alfalfa and wheat are the main nonirrigated crops.

Important management considerations include irrigation system improvement and management, crop rotation, tillage, nutrient management, weed and insect control, and proper grazing management.

Increased yields, erosion control, and efficient water use should be considered when planning irrigation system improvements. Improvements may include land leveling, piping or cementing open ditches, and installing gated pipe or other water-control devices. Flood irrigation systems should be used only in areas with slopes of 2 percent or less. Sprinkler irrigation systems commonly are used in the steeper areas and in areas of sandy soils. Because sprinkler systems generally are more efficient than flood systems, they also are an excellent alternative in areas that have slopes of 2 percent or less.

Soil erosion is a major management consideration on irrigated cropland with slopes of more than 2 percent and on nonirrigated cropland. Tillage systems that maintain a cover of crop residue on 30 percent of the soil surface help to minimize soil blowing and water erosion. Use of crop rotations that return residue to the soil or that include legumes should be considered. Residue that is left on the surface or is worked into the surface layer helps to improve the water intake rate, the available water capacity, and the soil tilth and returns nutrients to the soil. Burning of crop residue is not recommended.

Because many of the soils in the survey area have a low organic matter content, they are susceptible to the formation of a tillage pan. Formation of a tillage pan can be prevented by avoiding excessive tillage, deferring tillage or grazing when the soils are wet, and maintaining adequate crop residue in the soil. Use of a chisel plow should be considered. If a standard plow is used, plow depths should be varied from year to year.

Applications of animal manure and commercial fertilizer are needed to maintain soil fertility and high yields. Fertilizer should be applied on the basis of soil tests, cropping history, the needs of the crops grown, and the desired yields. Information on current recommendations can be obtained from the local office of the Cooperative Extension Service. To minimize the potential for surface-water or ground-water contamination, care should be taken to avoid applying excess nitrogen. Animal manure should be worked into the soil at the time of application to avoid the loss of nitrogen through volatization.

Unless weeds and insects are controlled, they can greatly reduce crop yields. Control measures include the use of pesticides, biological agents, crop rotation, and tillage. Generally, a combination of these practices provides the best control. If pesticides are used, they should be applied according to current laws and regulations. Care should be taken to avoid the contamination of surface water and ground water.

Cropland, Hayland, and Pastureland Limitations and Hazards

The management concerns affecting the use of the soils in the survey area for crops and pasture are shown in tables 6a and 6b. Only the soils normally used as cropland, hayland, and pastureland are included in the tables. Table 6a lists the management concerns for nonirrigated cropland, and table 6b lists the management concerns for irrigated cropland.

The main concerns in managing nonirrigated cropland are conserving moisture, controlling soil blowing and water erosion, and maintaining soil fertility.

Conserving moisture consists primarily of reducing the evaporation and runoff rates and increasing the water intake rate. Applying conservation tillage and conservation cropping systems, farming on the contour, stripcropping, establishing field windbreaks, and leaving crop residue on the surface help to conserve moisture.

Generally, a combination of several practices is needed to control *soil blowing* and *water erosion*. Conservation tillage, stripcropping, field windbreaks, tall grass barriers, contour farming, conservation cropping systems, crop residue management, diversions, and grassed waterways help to prevent excessive soil loss.

Measures that are effective in maintaining *soil fertility* include applying organic and inorganic fertilizer, including manure; incorporating crop residue or green manure crops into the soil; and using proper crop rotations. Controlling erosion helps to prevent the loss of organic matter and plant nutrients and thus helps to maintain productivity, although the level of fertility can be reduced even in areas where erosion is controlled.

The main concerns in managing irrigated cropland, hayland, and pastureland are *efficient use of water, control of salinity, reduction of deep percolation, control of irrigation erosion and runoff, management of nutrients, control of pests and weeds,* and *timely planting and harvesting.* An irrigation system that provides optimum control and distribution of water at minimal cost is needed. Overirrigation wastes water, leaches plant nutrients, and causes erosion. It can also create drainage problems, raise the water table, and increase the salinity of the soil.

The potential limitations and hazards of the soils in the survey area that are used for crops and pasture are as follows:

Depth to rock.—Yields of deep-rooted crops are limited by a root restrictive layer. The soils should not be leveled.

Erosion by water.—The soils are subject to erosion because of slope and the soil erodibility factor.

Excessive permeability.—The soils are sandy. This limitation can influence the design of irrigation systems and the management of irrigation water. Leaching of nutrients and pesticides is a potential hazard.

Flooding.—The soils are occasionally or frequently flooded. The types of vegetation that can be grown are limited.

Irrigation erosion.—The soils erode easily if irrigation water is applied improperly.

Lime content.—This limitation can effect soil fertility, irrigation requirements, movement of water in the soil, and plant germination. Depth to a layer that has a high content of lime should be considered in land leveling.

Limited available water capacity.—This limitation affects the design of irrigation systems and the management of irrigation water.

Ponding.—The soils have standing water on the surface for 7 to 30 days. The types of vegetation that can be grown are limited.

Poor tilth.—This limitation influences cracking of the soil, tillage requirements, germination of seedlings, and the ability of the soil to hold nutrients.

Potential for ground-water pollution.—The soils are excessively permeable or have hard bedrock or a water table within the profile.

Restricted permeability.—This limitation is caused by a solidified layer of calcium carbonate. Yields of deep-rooted crops are limited unless the hardpan is broken. The soils should not be leveled. Movement of water in the soils is restricted.

Root restrictive layer.—The soils have a solidified layer of calcium carbonate. Yields of deep-rooted crops are limited unless the hardpan is broken. The soils should not be leveled. Movement of water in the soils is restricted.

Salt content.—This limitation influences the type of crops that can be grown and their yields and the management of the soils.

Short frost-free season.—The growing season is less than 100 days. Only short-season varieties of crops can be grown.

Slope.—On irrigated cropland, slopes of more than 2 percent influence the design of irrigation systems, management of irrigation water, and irrigation erosion. On nonirrigated cropland, water erosion and soil blowing may be accelerated in areas where slopes are more than 8 percent unless conservation farming practices are applied.

Slow intake rate.—This limitation influences the design of irrigation systems and the management of irrigation water.

Sodium content.—This limitation influences the type of crops that can be grown and their yields and the management of the soils.

Soil blowing.—The soils will blow if left bare, dry, powdery, or smooth during periods of high winds in spring and fall. Germinating seedlings can be damaged.

Subsurface rock fragments.—The soils should not be leveled.

Surface crusting.—The soils have a tendency to develop a surface crust, which can reduce the infiltration of water and affect the germination of seedlings.

Surface rock fragments.—This limitation makes tillage, planting, and harvesting operations difficult. Plowing may not be possible on some soils unless rock fragments are removed. The soils should not be leveled.

Surface stones.—Stones or boulders on the surface can hinder normal tillage unless they are removed.

Water table.—This limitation influences the type of crops that can be grown, irrigation water management, and tillage.

An explanation of the criteria used to determine the limitations and hazards is as follows:

Depth to rock.—Bedrock is within a depth of 40 inches.

Erosion by water.—The K factor of the surface layer multiplied by the upper slope limit is more than 2 (same as criteria for prime farmland).

Excessive permeability.—Permeability is 6 inches per hour or more within the soil profile.

Flooding.—Flooding is occasional or frequent.

Irrigation erosion.—The K factor is more than 0.34 and slopes are more than 2 percent.

Lime content.—The upper 40 inches is more than 15 percent lime.

Limited available water capacity.—The available water capacity to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

Ponding.—Ponding duration is assigned to the map unit component.

Poor tilth.—The content of clay in the surface layer is more than 35 percent.

Potential for ground-water pollution.—Depth to the water table is 4 feet or less, depth to hard bedrock is 60 inches or less, or permeability of any layer is more than 6 inches per hour.

Restricted permeability.—Permeability is 0.06 inch per hour or less within the soil profile.

Root restrictive layer.—A lime- or silica-cemented hardpan is within a depth of 40 inches.

Salt content.—Electrical conductivity is more than 4 in the surface layer or more than 8 within a depth of 30 inches.

Short frost-free season.—The growing season is less than 100 days.

Slope.—The upper range of the slope is more than 8 percent on nonirrigated cropland or more than 2 percent on irrigated cropland.

Slow intake rate.—Permeability is 0.2 inch per hour or less in the upper 12 inches.

Sodium content.—The sodium adsorption ratio is more than 13 within a depth of 30 inches.

Soil blowing.—The wind erodibility index is 86 or more.

Subsurface rock fragments.—The terms describing the texture of the subsurface layers to a depth of 40 inches include any rock fragment modifier except gravelly and channery.

Surface crusting.—The sodium adsorption ratio of the surface layer is 5 or more, or it is 4 or more if the texture is silt, silt loam, loam, or very fine sandy loam.

Surface rock fragments.—The terms describing the texture of the surface layer include any rock fragment modifier except gravelly and channery and *surface stones* is not already indicated as a limitation.

Surface stones.—The word "stony" or "bouldery" is included in the description of the surface layer or in the map unit name.

Water table.—A water table is within a depth of 60 inches.

Crop Yield Estimates

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 7. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Yields for nonirrigated crops are based on use of a crop-fallow system. For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Pastureland and Hayland Interpretations

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM), or the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about forage yields other than those shown in table 7.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for woodland, and for engineering purposes.

In the capability system, soils generally are grouped at three levels—capability class, subclass, and unit *(7)*. These categories indicate the degree and kinds of limitations affecting mechanized farming systems that produce the more commonly grown field crops, such as corn, small grain, cotton, hay, and field-grown vegetables. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by numerals 1 through 8. The numerals indicate progressively greater limitations and narrower choices for practical use.

If properly managed, soils in classes 1, 2, 3, and 4 are suitable for the mechanized production of commonly grown field crops and for pasture and woodland. The degree of the soil limitations affecting the production of cultivated crops increases progressively from class 1 to class 4. The limitations can affect levels of production and the risk of permanent soil deterioration caused by erosion and other factors.

Soils in classes 5, 6, and 7 are generally not suited to the mechanized production of commonly grown field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The severity of the soil limitations affecting crops increases progressively from class 5 to class 7. The local office of the Cooperative Extension Service or the Natural Resources Conservation Service can provide information on the use of these soils as cropland.

Areas in class 8 are generally not suitable for crops, pasture, or woodland without a level of management that is impractical. These areas may have potential for other uses, such as recreational facilities and wildlife habitat.

Capability subclasses indicate the dominant limitations in the class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless a close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

There are no subclasses in class 1 because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use mainly to pasture, rangeland, woodland, wildlife habitat, or recreation.

The capability classification of each map unit is given in table 7.

Prime Farmland and Other Important Farmland

In this section, prime farmland and other important farmland are defined. The map units in the survey area that are considered prime farmland if irrigated are listed in table 8. Those that are considered farmland of statewide importance if irrigated are listed in table 9.

Prime Farmland

Prime farmland is of major importance in meeting the Nation's short and long range needs for food and fiber. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, State, and Federal levels, as well as individuals, must encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to food, seed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods. An adequate moisture supply and a sufficiently long growing season are required. Prime farmland soils produce the highest yields with minimal expenditure of energy and economic resources, and farming these soils results in the least damage to the environment.

Prime farmland soils may presently be used as cropland, pasture, or woodland or for other purposes. They either are used for food and fiber or are available for these uses. Urban or built-up land, public land, and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of land 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water-control structures. Public land is land not available for farming in National forests, National parks, military reservations, and State parks.

Prime farmland soils commonly receive an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable, and the level of acidity or alkalinity and the content of salts and sodium are acceptable. The soils have few, if any, rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods, and they are not frequently flooded during the growing season or are protected from flooding. Slopes range mainly from 0 to 6 percent.

Soils that have a high water table, are subject to flooding, or are droughty may qualify as prime farmland where these limitations are overcome by drainage measures, flood control, or irrigation. Onsite evaluation is necessary to determine the effectiveness of corrective measures. More information about the criteria for prime farmland can be obtained at the local office of the Natural Resources Conservation Service.

A recent trend in land use has been the conversion of prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that are less productive than prime farmland.

About 68,000 acres, or nearly 14 percent of the survey area, would meet the requirements for prime farmland if an adequate and dependable supply of irrigation water were available.

The map units in the survey area that meet the requirements for prime farmland if irrigated are listed in table 8. This list does not constitute a recommendation for a particular land use. The location of each map unit is shown on the detailed soil maps. The soil qualities that affect use and management are described in the sections "Soil Series and their Morphology" and "Detailed Soil Map Units."

Unique Farmland

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops. It has the special combination of soil qualities, location, growing season, and moisture supply needed for the production of sustained high yields of a specific high-quality crop when treated and managed by acceptable farming methods. Examples of such crops are citrus fruit, tree nuts, olives, cranberries, and vegetables.

Unique farmland is used for a specific high-value food or fiber crop. It has an adequate water supply from stored moisture, precipitation, or irrigation and has a combination of soil qualities, growing season, temperature, humidity, air drainage, elevation, aspect, and other factors, such as proximity to markets, that makes it suitable for the production of a specific high-value food or fiber crop.

Unique farmland areas are identified as needed. Currently, no unique farmland is identified in this survey area.

Farmland of Statewide Importance

Some areas other than those considered prime farmland or unique farmland are of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. Generally, farmland of statewide importance includes areas that nearly meet the criteria for prime farmland and that produce high yields of crops when treated and managed with acceptable farming methods. Some areas of this farmland can produce yields as high as those of areas of prime farmland if conditions are favorable. In some states, farmland of statewide importance may include tracts of land that have been designated for agriculture by the State.

In Utah, farmland of statewide importance has an adequate moisture supply for crop production in 5 years out of 10. Below a depth of 20 inches, the soils have a mean summer temperature of more than 59 degrees F. The pH level is 4.5 to 8.6 above a depth of 20 inches, and exchangeable sodium is less than 15 percent. A high water table does not prevent the production of food, fiber, and forage crops. The soils can be managed so that the conductivity of the saturation extract in the upper 20 inches is less than 4 millimhos. The soils are not flooded frequently (less than once in 2 years). The product of the soil erodibility (K) factor times the percent slope is 5 or less.

The map units that meet the criteria for farmland of statewide importance if irrigated are listed in table 9. The list does not constitute a recommendation for a particular land use.

Farmland of Local Importance

This land consists of areas that are of local importance in the production of food, feed, fiber, forage, and oilseed crops and are not identified as having national or statewide importance. This land is identified by local agencies. It may include tracts of land that have been designated for agriculture by local ordinances. Currently, no farmland of local importance is identified in this survey area.

Table 6a.--Nonirrigated Cropland, Hayland, and Pastureland Limitations and Hazards

(See text for a description of the limitations and hazards. Only the soils normally used for nonirrigated cropland, hayland, and pastureland are listed)

Soil name and map symbol	Limitations and hazards
17:	
Bonolden	Erosion by water Lime content Soil blowing
25:	
Calita	Lime content Soil blowing
Erda	Lime content Soil blowing
26:	
Calita	Erosion by water Lime content Soil blowing
Erda	Erosion by water Lime content Soil blowing
27:	
Cessna	Lime content Soil blowing
31:	
Collard	Excessive permeability Limited available water capacity Potential for ground-water pollution
37:	
Donnardo	Lime content Limited available water capacity Slope Surface stones
38:	
Donnardo	Lime content Limited available water capacity
Borvant	Lime content Limited available water capacity Restricted permeability Root restrictive layer Surface rock fragments
Collard	Excessive permeability Limited available water capacity Potential for ground-water pollution
41:	
Erda	Erosion by water Lime content Soil blowing
67:	
Jigsaw	Erosion by water Lime content Soil blowing

Table 6a.--Nonirrigated Cropland, Hayland, and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Limitations and hazards
68:	
Jigsaw	Lime content Soil blowing
Oakcity	Lime content Soil blowing Surface crusting
103:	
Probert	Erosion by water Lime content Soil blowing
110:	
Taylorsflat	Lime content Soil blowing
111:	
Taylorsflat	Lime content Soil blowing

Table 6b.--Irrigated Cropland, Hayland, and Pastureland Limitations and Hazards

(See text for a description of the limitations and hazards. Only the soils normally used for irrigated cropland, hayland, and pastureland are listed)

Soil name and map symbol	Limitations and hazards
3:	
Ashdown	Lime content Soil blowing
4:	
Ashdown	Lime content Slope Soil blowing Irrigation erosion
7:	
Bandag	Lime content Soil blowing
8:	
Bandag	Erosion by water Lime content Slope Soil blowing Irrigation erosion
15:	
Berent	Erosion by water Excessive permeability Limited available water capacity Potential for ground-water pollution Slope Soil blowing Surface crusting
Oakcity	Lime content Soil blowing Surface crusting
Heist	Lime content Slope Soil blowing
17:	
Bonolden	Erosion by water Lime content Slope Soil blowing Irrigation erosion
23:	
Boxelder	Lime content Soil blowing
25:	
Calita	Lime content Soil blowing
Erda	Lime content Soil blowing

Table 6b.--Irrigated Cropland, Hayland, and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Limitations and hazards
26:	
Calita	Erosion by water Lime content Slope Soil blowing Irrigation erosion
Erda	Erosion by water Lime content Slope Soil blowing Irrigation erosion
27:	
Cessna	Lime content Slope Soil blowing Irrigation erosion
31:	
Collard	Excessive permeability Limited available water capacity Potential for ground-water pollution Slope
36:	
Deseret	Lime content Salt content Sodium content Soil blowing Surface crusting Water table
37:	
Donnardo	Lime content Limited available water capacity Slope Surface stones
38:	
Donnardo	Lime content Limited available water capacity Slope
Borvant	Lime content Limited available water capacity Restricted permeability Root restrictive layer Slope Surface rock fragments
Collard	Excessive permeability Limited available water capacity Potential for ground-water pollution Slope
39:	
Donnardo	Lime content Limited available water capacity Slope Surface stones

Table 6b.--Irrigated Cropland, Hayland, and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Limitations and hazards
39:	
Kapod	Lime content Limited available water capacity Slope Surface stones
41:	
Erda	Erosion by water Lime content Slope Soil blowing Irrigation erosion
42:	
Escalante	Excessive permeability Lime content Potential for ground-water pollution Soil blowing
43:	
Escalante	Excessive permeability Lime content Potential for ground-water pollution Slope Soil blowing
47:	
Freedom	Lime content Soil blowing
48:	
Freedom	Erosion by water Lime content Slope Soil blowing Irrigation erosion
49:	
Genola	Lime content Soil blowing
50:	
Genola	Erosion by water Lime content Slope Soil blowing Irrigation erosion
52:	
Heist	Lime content Soil blowing
53:	
Heist	Lime content Slope Soil blowing
54:	
Heist	Erosion by water Limited available water capacity Slope Soil blowing

Table 6b.--Irrigated Cropland, Hayland, and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Limitations and hazards
54:	
Berent	Erosion by water Excessive permeability Limited available water capacity Potential for ground-water pollution
55:	
Heist	Erosion by water Limited available water capacity Slope Soil blowing
Linoyer	Lime content Soil blowing
63:	
Hiko Peak	Excessive permeability Lime content Limited available water capacity Potential for ground-water pollution Soil blowing Subsurface rock fragments
Heist	Lime content Soil blowing
64:	
Hiko Peak	Erosion by water Excessive permeability Lime content Limited available water capacity Potential for ground-water pollution Slope Soil blowing Subsurface rock fragments
Heist	Lime content Slope Soil blowing
67:	
Jigsaw	Erosion by water Lime content Slope Soil blowing Irrigation erosion
68:	
Jigsaw	Lime content Soil blowing
Oakcity	Lime content Soil blowing Surface crusting
73:	
Kessler	Lime content Soil blowing

Table 6b.--Irrigated Cropland, Hayland, and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Limitations and hazards
75:	
Kessler	Lime content Soil blowing
Linoyer	Lime content Soil blowing
82:	
Linoyer	Lime content Soil blowing
83:	
Linoyer	Erosion by water Lime content Slope Soil blowing Irrigation erosion
91:	
Medburn	Lime content Limited available water capacity Salt content Soil blowing Surface crusting
Berent	Excessive permeability Limited available water capacity Potential for ground-water pollution Slope Soil blowing Surface crusting
Escalante	Excessive permeability Lime content Potential for ground-water pollution Soil blowing
92:	
Memmott	Lime content Potential for ground-water pollution Soil blowing Surface crusting Water table
93:	
Musinia	Lime content Soil blowing
94:	
Musinia	Erosion by water Lime content Slope Soil blowing Irrigation erosion
95:	
Oakcity	Lime content Soil blowing Surface crusting

Table 6b.--Irrigated Cropland, Hayland, and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Limitations and hazards
96:	
Oasis	Excessive permeability Lime content Potential for ground-water pollution Sodium content Soil blowing Surface crusting
103:	
Probert	Erosion by water Lime content Slope Soil blowing
110:	
Taylorsflat	Lime content Soil blowing
111:	
Taylorsflat	Lime content Slope Soil blowing Irrigation erosion
113:	
Timpie	Salt content Soil blowing
120:	
Woodrow	Lime content Soil blowing

Table 7.--Land Capability and Yields Per Acre of Crops and Pasture

(Yields in the N columns are for nonirrigated soils; those in the I columns are for irrigated soils. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability		Alfalfa hay		Wheat		Barley		Corn silage		Potatoes		Pasture	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	Bu	Bu	Bu	Bu	Tons	Tons	Cwt	Cwt	AUM*	AUM*
1: Amtoft	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop.														
2: Amtoft	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Spager	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
3: Ashdown	6c	2c	---	6.0	---	80	---	90	---	25	---	---	---	6.0
4: Ashdown	6e	2e	---	5.5	---	80	---	90	---	25	---	---	---	6.0
5: Atepic	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop.														
6: Atepic	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Sonlet	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
7: Bandag	6c	2c	---	6.0	---	80	---	95	---	25	---	---	0.6	6.0
8: Bandag	6e	3e	---	5.5	---	80	---	95	---	25	---	---	0.6	6.0
9: Bandag	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
Berent	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
10: Beckstrand	6w	---	---	---	---	---	---	---	---	---	---	---	2.0	---
Benstot	6w	---	---	---	---	---	---	---	---	---	---	---	2.0	---
11: Benstot	6w	---	---	---	---	---	---	---	---	---	---	---	2.0	---
Scipio	4w	---	---	---	---	---	---	---	---	---	---	---	3.0	---
12: Bentaxle	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Lodar	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
13: Bentaxle	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop.														

See footnote at end of table.

Table 7.--Land Capability and Yields Per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Wheat		Barley		Corn silage		Potatoes		Pasture	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	Bu	Bu	Bu	Bu	Tons	Tons	Cwt	Cwt	AUM*	AUM*
14:														
Berent----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
15:														
Berent----------	7s	4s	---	4.5	---	55	---	70	---	---	---	280	0.3	4.0
Oakcity---------	6s	3s	---	5.0	---	70	---	75	---	20	---	---	0.6	5.0
Heist-----------	7e	2e	---	5.0	---	75	---	90	---	20	---	300	0.4	5.0
16:														
Berent----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Taylorsflat-----	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Mellor----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
17:														
Bonolden--------	4e	2e	2.0	5.5	18	80	---	85	---	---	---	---	1.0	6.0
18:														
Bonolden--------	4e	---	---	---	---	---	---	---	---	---	---	---	1.0	---
Erda------------	4e	---	---	---	---	---	---	---	---	---	---	---	1.0	---
19:														
Borvant---------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
20:														
Borvant---------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Jardal----------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
21:														
Borvant---------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Jardal----------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
22:														
Borvant---------	7s	---	---	---	---	---	---	---	---	---	---	---	0.6	---
Pavant----------	7s	---	---	---	---	---	---	---	---	---	---	---	0.6	---
23:														
Boxelder--------	6c	2c	---	5.0	---	70	---	85	---	20	---	---	0.6	5.0
24:														
Boxelder--------	6c	---	---	---	---	---	---	---	---	---	---	---	0.5	---
25:														
Calita----------	4c	2c	2.0	5.0	18	70	---	90	---	25	---	---	1.0	6.0
Erda------------	4c	2c	2.0	5.0	18	70	---	90	---	---	---	---	1.0	6.0
26:														
Calita----------	4e	3e	2.0	4.5	18	65	---	90	---	20	---	---	1.0	5.0
Erda------------	4e	3e	2.0	4.5	18	65	---	85	---	---	---	---	1.0	5.0
27:														
Cessna----------	4e	2e	---	5.0	---	75	---	85	---	25	---	---	1.0	6.0

See footnote at end of table.

Table 7.--Land Capability and Yields Per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Wheat		Barley		Corn silage		Potatoes		Pasture	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	Bu	Bu	Bu	Bu	Tons	Tons	Cwt	Cwt	AUM*	AUM*
28:														
Checkett--------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Amtoft----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
29:														
Church Springs--	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
30:														
Cloyd-----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop.														
31:														
Collard---------	6s	---	---	---	12	---	---	---	---	---	---	---	1.0	---
32:														
Curdli----------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
33:														
Current Spring--	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
34:														
Current Spring--	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
Maple Hollow----	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
35:														
Current Spring--	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
Maple Hollow----	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
36:														
Deseret---------	7s	2c	---	5.0	---	---	---	70	---	23	---	---	---	4.5
37:														
Donnardo--------	6s	---	---	---	12	---	---	---	---	---	---	---	0.6	---
38:														
Donnardo--------	6s	---	---	---	12	---	---	---	---	---	---	---	0.6	---
Borvant---------	6s	---	---	---	12	---	---	---	---	---	---	---	0.6	---
Collard---------	6s	---	---	---	12	---	---	---	---	---	---	---	1.0	---
39:														
Donnardo--------	6s	---	---	---	12	---	---	---	---	---	---	---	---	---
Kapod-----------	6s	---	---	---	---	---	---	---	---	---	---	---	---	---
40:														
Dune land.														
41:														
Erda------------	4e	3e	2.0	5.0	18	65	---	85	---	---	---	---	1.0	5.0
42:														
Escalante-------	7s	2c	---	5.5	---	70	---	85	---	25	---	320	0.5	5.0
43:														
Escalante-------	7s	2c	---	5.5	---	70	---	85	---	25	---	320	0.5	5.0

See footnote at end of table.

Table 7.--Land Capability and Yields Per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Wheat		Barley		Corn silage		Potatoes		Pasture	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	Bu	Bu	Bu	Bu	Tons	Tons	Cwt	Cwt	AUM*	AUM*
44:														
Escalante-------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
Berent----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Escalante-------	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
45:														
Firmage---------	6e	---	---	---	---	---	---	---	---	---	---	---	0.6	---
46:														
Firmage---------	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
Hiko Peak-------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
47:														
Freedom---------	6c	2c	---	5.5	---	80	---	80	---	25	---	---	---	6.0
48:														
Freedom---------	6e	3e	---	5.0	---	75	---	75	---	20	---	---	0.6	5.0
49:														
Genola----------	6c	2c	---	6.0	---	75	---	95	---	25	---	---	0.6	6.0
50:														
Genola----------	6e	3e	---	5.0	---	65	---	75	---	20	---	---	0.6	5.0
51:														
Green River-----	6w	---	---	---	---	---	---	---	---	---	---	---	---	---
Poganeab--------	6w	---	---	---	---	---	---	---	---	---	---	---	---	---
52:														
Heist-----------	7c	2c	---	5.5	---	75	---	95	---	25	---	320	0.5	---
53:														
Heist-----------	7e	3e	---	5.0	---	75	---	90	---	20	---	300	0.4	---
54:														
Heist-----------	7e	3e	---	5.0	---	65	---	70	---	---	---	---	0.4	5.0
Berent----------	7s	4s	---	4.0	---	55	---	70	---	---	---	---	0.3	3.0
55:														
Heist-----------	7e	3e	---	5.0	---	65	---	70	---	---	---	---	0.4	5.0
Linoyer---------	6c	2c	---	5.5	---	75	---	90	---	---	---	---	0.6	5.0
56:														
Hiko Peak-------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
57:														
Hiko Peak-------	7e	---	---	---	---	---	---	---	---	---	---	---	0.3	---
58:														
Hiko Peak-------	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
59:														
Hiko Peak-------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---

See footnote at end of table.

Table 7.--Land Capability and Yields Per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Wheat		Barley		Corn silage		Potatoes		Pasture	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	Bu	Bu	Bu	Bu	Tons	Tons	Cwt	Cwt	AUM*	AUM*
60:														
Hiko Peak-------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
61:														
Hiko Peak-------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
Amtoft----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
62:														
Hiko Peak-------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
Heist-----------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
63:														
Hiko Peak-------	7c	2e	---	5.0	---	70	---	90	---	20	---	280	---	---
Heist-----------	7c	2c	---	5.5	---	75	---	95	---	25	---	320	---	---
64:														
Hiko Peak-------	7e	3e	---	4.5	---	65	---	80	---	15	---	260	0.3	---
Heist-----------	7e	3e	---	5.0	---	75	---	90	---	20	---	300	0.4	---
65:														
Hiko Peak-------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Pibler----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
66:														
Jardal----------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
Donnardo--------	6s	---	---	---	---	---	---	---	---	---	---	---	---	---
67:														
Jigsaw----------	6e	3e	---	5.5	---	70	---	85	---	20	---	---	0.6	5.0
68:														
Jigsaw----------	6c	2c	---	6.0	---	75	---	95	---	25	---	---	0.6	6.0
Oakcity---------	6s	3s	---	5.0	---	70	---	75	---	20	---	---	0.6	6.0
69:														
Kanosh----------	7w	---	---	---	---	---	---	---	---	---	---	---	---	---
70:														
Kapod-----------	6s	---	---	---	---	---	---	---	---	---	---	---	---	---
71:														
Kapod-----------	6s	---	---	---	---	---	---	---	---	---	---	---	---	---
Collard---------	6s	---	---	---	---	---	---	---	---	---	---	---	---	---
72:														
Kapod-----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop.														
73:														
Kessler---------	6c	2c	---	5.5	---	---	---	90	---	20	---	---	0.6	5.0

See footnote at end of table.

Table 7.--Land Capability and Yields Per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Wheat		Barley		Corn silage		Potatoes		Pasture	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	Bu	Bu	Bu	Bu	Tons	Tons	Cwt	Cwt	AUM*	AUM*
74:														
Kessler	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
75:														
Kessler	6c	2c	---	5.5	---	---	---	90	---	20	---	---	0.6	5.0
Linoyer	6c	2c	---	5.5	---	---	---	90	---	20	---	---	0.6	5.0
76:														
Kidman	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
Preston	6s	---	---	---	---	---	---	---	---	---	---	---	---	---
77:														
Kitchell	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
78:														
Kudlac	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
79:														
Larwood	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Berent	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
80:														
Lava flows.														
Berent	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
81:														
Lava flows.														
Shotwell	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
82:														
Linoyer	6c	2c	---	6.0	---	---	---	100	---	25	---	---	---	5.5
83:														
Linoyer	6e	3e	---	5.0	---	---	---	90	---	20	---	---	---	5.0
84:														
Lizzant	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
85:														
Lodar	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
86:														
Lodar	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Kidman	6e	---	---	---	---	---	---	---	---	---	---	---	---	---
87:														
Lodar	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop.														
88:														
Lonjon	7e	---	---	---	---	---	---	---	---	---	---	---	---	---

See footnote at end of table.

Table 7.--Land Capability and Yields Per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Wheat		Barley		Corn silage		Potatoes		Pasture	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	Bu	Bu	Bu	Bu	Tons	Tons	Cwt	Cwt	AUM*	AUM*
89:														
Manassa----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
90:														
Manassa----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Mellor-----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
91:														
Medburn----------	7s	4s	---	4.5	---	50	---	70	---	---	---	280	0.4	4.0
Berent-----------	7s	4s	---	4.5	---	55	---	70	---	---	---	280	0.3	4.0
Escalante--------	7s	2c	---	5.5	---	70	---	85	---	25	---	320	0.5	5.0
92:														
Memmott----------	6w	3w	---	5.0	---	---	---	95	---	20	---	---	---	4.5
93:														
Musinia----------	6c	2c	---	6.0	---	80	---	100	---	25	---	---	---	6.0
94:														
Musinia----------	6e	3e	---	5.0	---	75	---	85	---	20	---	---	---	5.0
95:														
Oakcity----------	6s	3s	---	5.0	---	70	---	75	---	20	---	---	0.6	5.0
96:														
Oasis------------	7s	3s	---	5.0	---	80	---	---	---	20	---	---	---	5.0
97:														
Pibler-----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
98:														
Pibler-----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Pober------------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
99:														
Pober------------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
100:														
Pober------------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
Berent-----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
101:														
Pober------------	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
Berent-----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
102:														
Preston----------	6s	---	---	---	---	---	---	---	---	---	---	---	---	---
103:														
Probert----------	6e	---	2.0	---	18	---	---	---	---	---	---	---	1.0	---
104:														
Rock outcrop.														
Lodar------------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---

See footnote at end of table.

Table 7.--Land Capability and Yields Per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Wheat		Barley		Corn silage		Potatoes		Pasture	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	Bu	Bu	Bu	Bu	Tons	Tons	Cwt	Cwt	AUM*	AUM*
105: Rock outcrop.														
Shotwell	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
106: Rock outcrop.														
Soma	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
107: Searla	7e	---	---	---	---	---	---	---	---	---	---	---	---	---
Kapod	6s	---	---	---	---	---	---	---	---	---	---	---	---	---
108: Spager	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
109: Sterling	6e	---	---	---	---	---	---	---	---	---	---	---	0.8	---
110: Taylorsflat	6c	2c	---	5.0	---	75	---	85	---	20	---	---	0.6	6.0
111: Taylorsflat	6e	2e	---	4.5	---	70	---	80	---	15	---	---	0.6	5.0
112: Thiokol	6s	---	---	---	---	---	---	---	---	---	---	---	---	---
113: Timpie	7s	4s	---	4.5	---	40	---	60	---	---	---	---	---	4.0
114: Timpie	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Uvada	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
115: Tooele	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
116: Uffens	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
117: Uffens	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
118: Uvada	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
119: Uvada	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Yenrab	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
120: Woodrow	6e	2e	---	6.0	---	---	---	100	---	25	---	---	---	6.0
121: Yenrab	7s	---	---	---	---	---	---	---	---	---	---	---	---	---

See footnote at end of table.

Table 7.--Land Capability and Yields Per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Wheat		Barley		Corn silage		Potatoes		Pasture	
	N	I	N	I	N	I	N	I	N	I	N	I	N	I
			Tons	Tons	Bu	Bu	Bu	Bu	Tons	Tons	Cwt	Cwt	AUM*	AUM*
122:														
Yenrab----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Puddle----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
123:														
Yenrab----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---
Uvada-----------	7s	---	---	---	---	---	---	---	---	---	---	---	---	---

* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Table 8.--Prime Farmland

(All soils listed must be irrigated to meet the requirements for prime farmland)

Map symbol	Soil name
3	Ashdown loam, 0 to 2 percent slopes
4	Ashdown loam, 2 to 5 percent slopes
7	Bandag loam, 0 to 2 percent slopes
8	Bandag loam, 2 to 5 percent slopes
27	Cessna loam, 0 to 5 percent slopes
42	Escalante sandy loam, 0 to 2 percent slopes
43	Escalante sandy loam, 2 to 5 percent slopes
47	Freedom silt loam, 0 to 2 percent slopes
48	Freedom silt loam, 2 to 5 percent slopes
49	Genola silt loam, 0 to 2 percent slopes
50	Genola silt loam, 2 to 5 percent slopes
52	Heist fine sandy loam, 0 to 2 percent slopes
53	Heist fine sandy loam, 2 to 5 percent slopes
83	Linoyer very fine sandy loam, 2 to 5 percent slopes
92	Memmott silt loam, 0 to 2 percent slopes
93	Musinia silt loam, 0 to 2 percent slopes
94	Musinia silt loam, 2 to 5 percent slopes
120	Woodrow silty clay loam, 0 to 2 percent slopes

Table 9.--Farmland of Statewide Importance

(All soils listed must be irrigated to meet the requirements for important farmland)

Map symbol	Soil name
17	Bonolden silt loam, 0 to 5 percent slopes
18	Bonolden-Erda complex, 0 to 3 percent slopes
23	Boxelder silt loam, 0 to 2 percent slopes
25	Calita-Erda complex, 0 to 2 percent slopes
26	Calita-Erda complex, 2 to 8 percent slopes
41	Erda silt loam, 2 to 5 percent slopes
55	Heist-Linoyer complex, 0 to 8 percent slopes
63	Hiko Peak-Heist complex, 0 to 2 percent slopes
64	Hiko Peak-Heist complex, 2 to 8 percent slopes
67	Jigsaw silt loam, 2 to 5 percent slopes
68	Jigsaw-Oakcity complex, 0 to 2 percent slopes
73	Kessler silt loam, 0 to 2 percent slopes
75	Kessler-Linoyer complex, 0 to 2 percent slopes
82	Linoyer loam, 0 to 2 percent slopes
95	Oakcity loam, 0 to 2 percent slopes
110	Taylorsflat loam, 0 to 2 percent slopes
111	Taylorsflat loam, 2 to 5 percent slopes

Rangeland

By Lars Rasmussen, range conservationist, Natural Resources Conservation Service.

Rangeland is an important resource in the survey area. Much of the survey area is used for range. Perennial grasses, shrubs, and forbs are the dominant vegetation, but some areas also support a cover of aspen, maple, and oak.

Rangeland is used primarily for grazing by cattle and sheep in spring, summer, and fall. The warmer areas are used as range for sheep and cattle in winter. The Upland, Mountain, and Wet Azonal climatic areas, which are defined later in this section, are used as range in summer. Stock water generally is adequate, and it is supplied by streams, springs, reservoirs, and wells.

The rangeland in the area is also used as wildlife habitat, recreational areas, and watershed and for its esthetic value.

Much of the acreage that was once open native grassland is now covered by annual grasses and forbs and shrubs. Excessive grazing in the past has resulted in deterioration of much of the land. Juniper and pinyon and woody shrubs, such as sagebrush and greasewood, have invaded or increased to nearly closed stands. Excessive grazing and repeated wildfires have allowed cheatgrass to become dominant in some areas.

Productivity of the rangeland can be increased by using management practices such as planned grazing systems, deferred grazing, brush management, fencing, water developments, and seeding. The practices suitable for use depend on the soils, range sites, and specific types of operations.

Precipitation and climate are important environmental factors influencing the kinds, amount, and distribution of vegetation. Plants growing on the rangeland in different parts of the survey area are affected by differences in the kinds of soil and variations in climate.

The climate ranges from arid in the northwestern part near Lynndyl to subhumid in the mountainous areas east of Fillmore, Meadow, and Kanosh. The average annual precipitation ranges from about 6 inches in the northwestern part to 20 inches in the mountainous areas.

Four distinct climatic regimes are recognized in the survey area. These regimes are determined on the basis of differences in the amount of moisture received, the average annual air temperature, and the length of the growing season. A description of the climatic regimes follows:

Desert climatic regime. The average annual precipitation is 6 to 8 inches, the average annual air temperature is 49 to 54 degrees F, and the average frost-free period is 120 to 140 days. Elevation ranges from 4,600 to 5,000 feet.

Semidesert climatic regime. The average annual precipitation is 8 to 12 inches, the average annual air temperature is 45 to 52 degrees, and the average frost-free period is 100 to 160 days. Elevation ranges from 4,600 to 6,400 feet.

Upland climatic regime. The average annual precipitation is 12 to 16 inches, the average annual air temperature is 40 to 52 degrees, and the average frost-free period is 80 to 160 days. Elevation ranges from 4,600 to 7,600 feet.

Mountain climatic regime. The average annual precipitation is 16 to 22 inches, the average annual air temperature is 40 to 45 degrees, and the average frost-free period is 60 to 110 days. Elevation ranges from 5,200 to about 8,000 feet.

Some range sites are azonal. On these sites, the influence of flooding, a high water table, salinity or alkalinity, or some other factor is strong enough to override climate as the controlling factor. There are five azonal range sites in this survey area—Alkali Flat (Black Greasewood), Loamy Bottom (Basin Wildrye), Wet Saline Meadow, Semiwet Fresh Meadow, and Wet Fresh Meadow. In the azonal areas, the average annual precipitation is 6 to 14 inches, the average annual air temperature is 45 to 52 degrees, and the average frost-free period is 95 to 150 days. Elevation ranges from 4,600 to 6,000 feet. The plant communities on the Alkali Flat (Black Greasewood) range site receive moisture from precipitation. The plant communities on the Loamy Bottom (Basin Wildrye) and Wet Saline Meadow range sites receive moisture from precipitation and from a water table or from runoff from adjacent soils. The plant communities on the Semiwet Fresh Meadow and Wet Fresh Meadow range sites receive moisture from precipitation and from nearby streams and springs.

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

Rangeland is defined as land on which the potential natural, or climax, vegetation is predominantly grasses, grasslike plants, forbs, and shrubs suitable for grazing and browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain shrubs and forbs. Rangeland does not receive regular or frequent cultural treatment. The composition and production of the plant community are determined by the soil, climate, topography, and overstory and by grazing management.

Grazeable forest land is defined as land on which the understory includes plants that can be grazed without significant loss of other forest values.

Table 10 shows, for each soil, the range site; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. Only those soils that are used as rangeland or are suited to use as rangeland are listed. Explanation of the column headings in the table follows.

Range site is a distinctive kind of rangeland that produces a characteristic natural plant community that differs from natural plant communities on other range sites in kind, amount, and proportion of range plants.

Many different range sites are in the survey area. Over time, the combination of plants best suited to a particular soil and climate becomes established. If the soil is not excessively disturbed, these plants make up the natural plant community for the site. Natural plant communities are not static; they vary slightly from year to year and place to place.

The relationship between soils and vegetation was ascertained during this survey; thus, range sites generally can be determined directly from the soil map. Soil properties that affect moisture supply and plant nutrients have the greatest influence on the productivity of range plants. Soil reaction, salt content, and a seasonal high water table are also important. The Field Office Technical Guide, which is available at the local office of the Natural Resources Conservation Service, provides specific information about range sites.

Total production is the amount of vegetation that can be expected to grow annually on well managed rangeland that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruit of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture.

Dry weight is the total annual yield per acre of air-dry vegetation. Yields are adjusted to a common percent of air-dry moisture content. The relationship of green weight to air-dry weight varies according to such factors as exposure, amount of shade, recent rains, and unseasonable dry periods.

Characteristic vegetation—the grasses, forbs, and shrubs that make up most of the potential natural plant community on each soil—is listed by common name. Under *composition*, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range Condition

Range condition is based on a comparison of the present plant community on a particular range site with the potential natural plant community for that site. The more closely the existing plant community resembles the natural plant community, the better the range condition.

Disturbances that change the natural plant community include repeated overuse by livestock and excessive burning, erosion, and plowing. Grazing animals select the most palatable plants. The percentage of these plants in the plant community will be severely reduced if they are continually grazed. Very severe disturbance can completely destroy the natural plant community. Under these conditions, the less desirable plants, such as annuals and weedlike plants, can invade. Unless the plant community has deteriorated significantly, it eventually will return to dominantly natural plants if proper grazing management is applied.

Four range condition classes are used to indicate the degree of deterioration of the natural plant community. It is considered in *excellent* condition if more than 75 percent of the present plant community is the same as the natural plant community. It is in *good* condition if the natural plants make up 51 to 75 percent of the present plant community, *fair* condition if the natural plants make up 26 to 50 percent, and *poor* condition if the natural plants make up less than 25 percent.

Knowledge of the range site and condition is necessary as a basis for planning and applying the management needed to maintain or improve the desired plant community for selected uses. It is needed to determine management objectives, proper grazing systems and stocking rates, suitable wildlife management practices, the potential for recreational uses, and the condition of watersheds.

Rangeland Management

Rangeland management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range condition.

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of less desirable species, conservation of water, and control of erosion. Sometimes, however, a range condition somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Grazing management is the most important part of any rangeland management program. Proper grazing use, timely deferment of grazing, and planned rotation grazing systems are key practices. Research and the experience of ranchers have shown that if no more than one-half of the current year's growth is grazed, a plant community in good or excellent condition can be maintained and one in fair condition can be improved. Maintaining one-half of the current year's growth enables plants to make and store nutrients for regrowth and root development. As a result, the desirable plants remain healthy and are not replaced by less desirable grasses and weeds. Also, maintaining a plant cover protects the soil from water erosion and soil blowing, improves tilth, increases the water infiltration rate, and helps to control runoff.

Certain practices commonly are needed for uniform distribution of grazing. These include developing livestock watering facilities, fencing, properly locating salt and mineral supplements, constructing livestock trails in steeply sloping areas, and herding.

Various kinds of grazing systems can be used in range management. No single grazing system is best under all conditions. The grazing system should increase the quantity and improve the quality of the range vegetation, meet the needs of the individual operator, and be designed according to the topography, type of grazing animals, and resource management objectives.

Special improvement practices are needed in areas where the management practices alone do not achieve the desired results or where recovery is too slow. These practices include range seeding, brush management, water spreading, prescribed burning, and mechanical treatment. Some soils are suited to mechanical treatment for range improvement. On other soils, however, only proper grazing management can improve the range.

Where feasible, mechanical renovation practices, such as shallow chiseling, can be used to speed up the recovery of desirable plants. These practices break up the surface layer, which increases the absorption of moisture and improves the production of the more desirable plants. Brush management and timely deferment of grazing also allow for recovery of desirable plants.

Seeding may be needed in areas where the less desirable plants are dominant. A clean, firm seedbed should be prepared, suitable species should be selected, and rest periods should be long enough to allow the plants to become established.

Special improvement practices can be effective only if the management system used enables the desirable plants to remain healthy.

Table 10.--Rangeland Productivity and Characteristic Plant Communities

(Only the soils that support rangeland vegetation suitable for grazing are listed. Ppt means precipitation)

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
1:					
Amtoft	Semidesert Shallow Loam (Utah Juniper-Bluebunch Wheatgrass)	Favorable	350	Black sagebrush	30
		Normal	250	Bluebunch wheatgrass	25
		Unfavorable	175	Indian ricegrass	10
				Other perennial grasses	10
				Nevada bluegrass	5
				Other shrubs	5
				Other perennial forbs	5
				Shadscale	5
				Globemallow	5
Rock outcrop.					
2:					
Amtoft	Semidesert Shallow Loam (Utah Juniper-Bluebunch Wheatgrass)	Favorable	350	Black sagebrush	30
		Normal	250	Bluebunch wheatgrass	25
		Unfavorable	175	Indian ricegrass	10
				Other perennial grasses	10
				Nevada bluegrass	5
				Other shrubs	5
				Other perennial forbs	5
				Shadscale	5
				Globemallow	5
Spager	Semidesert Shallow Hardpan (Utah Juniper)	Favorable	600	Black sagebrush	20
		Normal	400	Bluebunch wheatgrass	15
		Unfavorable	300	Indian ricegrass	15
				Winterfat	10
				Other shrubs	10
				Douglas rabbitbrush	5
				Mormon tea	5
				Other perennial forbs	5
				Needleandthread	5
				Bottlebrush squirreltail	5
				Thickstem wildcabbage	5
3:					
Ashdown	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
4:					
Ashdown	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
5:					
Atepic	Upland Shallow Loam (Pinyon-Utah Juniper)	Favorable	1,800	Bluebunch wheatgrass	25
		Normal	1,275	Indian ricegrass	15
		Unfavorable	850	Birchleaf mountainmahogany	15
				Other shrubs	10
				Other annual forbs	5
				Wyoming big sagebrush	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Nevada bluegrass	5
				Other perennial forbs	5
				Other perennial grasses	5
Rock outcrop.					
6:					
Atepic	Upland Shallow Loam (Pinyon-Utah Juniper)	Favorable	1,800	Bluebunch wheatgrass	25
		Normal	1,275	Indian ricegrass	15
		Unfavorable	850	Birchleaf mountainmahogany	15
				Other shrubs	10
				Other annual forbs	5
				Wyoming big sagebrush	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Nevada bluegrass	5
				Other perennial forbs	5
				Other perennial grasses	5
Sonlet	Upland Shallow Loam (Pinyon-Utah Juniper)	Favorable	700	Bluebunch wheatgrass	20
		Normal	500	Black sagebrush	15
		Unfavorable	200	Indian ricegrass	10
				Bluegrass	10
				Birchleaf mountainmahogany	5
				Mexican cliffrose	5
				Mountain big sagebrush	5
				Blue grama	5
				Other perennial forbs	5
				Needleandthread	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Other shrubs	5
7:					
Bandag	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Hood phlox	5
8:					
Bandag	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Hood phlox	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
9:					
Bandag	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Hood phlox	5
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5
10:					
Beckstrand	Semiwet Fresh Meadow	Favorable	2,500	Kentucky bluegrass	25
		Normal	2,000	Sedge	10
		Unfavorable	1,000	Other perennial grasses	10
				Coastal saltgrass	5
				Basin wildrye	5
				Western wheatgrass	5
				Field horsetail	5
				Other shrubs	5
				Baltic rush	5
				Plantain	5
				Redtop	5
				Carpet bentgrass	5
				Other perennial forbs	5
				Rubber rabbitbrush	5
Benstot	Semiwet Fresh Meadow	Favorable	2,500	Kentucky bluegrass	25
		Normal	2,000	Sedge	10
		Unfavorable	1,000	Other perennial grasses	10
				Coastal saltgrass	5
				Basin wildrye	5
				Redtop	5
				Field horsetail	5
				Other shrubs	5
				Baltic rush	5
				Plantain	5
				Emery cinquefoil	5
				Western wheatgrass	5
				Other perennial forbs	5
				Rubber rabbitbrush	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
11:					
Benstot	Semiwet Fresh Meadow	Favorable	2,500	Kentucky bluegrass	25
		Normal	2,000	Sedge	10
		Unfavorable	1,000	Other perennial grasses	10
				Coastal saltgrass	5
				Basin wildrye	5
				Redtop	5
				Field horsetail	5
				Other shrubs	5
				Baltic rush	5
				Plantain	5
				Emery cinquefoil	5
				Western wheatgrass	5
				Other perennial forbs	5
				Rubber rabbitbrush	5
Scipio	Wet Fresh Meadow	Favorable	4,500	Nebraska sedge	30
		Normal	3,000	Redtop	10
		Unfavorable	1,500	Sedge	10
				Tufted hairgrass	10
				Field horsetail	5
				Baltic rush	5
				Other shrubs	5
				Emery cinquefoil	5
				Kentucky bluegrass	5
				Other perennial forbs	5
				Other perennial grasses	5
				Willow	5
12:					
Bentaxle	Upland Shallow Loam (Pinyon-Utah Juniper)	Favorable	700	Bluebunch wheatgrass	20
		Normal	500	Black sagebrush	15
		Unfavorable	200	Indian ricegrass	10
				Bluegrass	10
				Birchleaf mountainmahogany	5
				Mexican cliffrose	5
				Mountain big sagebrush	5
				Blue grama	5
				Other perennial forbs	5
				Needleandthread	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Other shrubs	5
Lodar	Upland Shallow Loam (Pinyon-Utah Juniper)	Favorable	700	Bluebunch wheatgrass	20
		Normal	500	Black sagebrush	15
		Unfavorable	200	Indian ricegrass	10
				Bluegrass	10
				Birchleaf mountainmahogany	5
				Mexican cliffrose	5
				Mountain big sagebrush	5
				Blue grama	5
				Other perennial forbs	5
				Needleandthread	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Other shrubs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
13:					
Bentaxle	Upland Shallow Loam (Pinyon-Utah Juniper)	Favorable	700	Bluebunch wheatgrass	20
		Normal	500	Black sagebrush	15
		Unfavorable	200	Indian ricegrass	10
				Bluegrass	10
				Birchleaf mountainmahogany	5
				Mexican cliffrose	5
				Mountain big sagebrush	5
				Blue grama	5
				Other perennial forbs	5
				Needleandthread	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Other shrubs	5
Rock outcrop.					
14:					
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5
15:					
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5
Oakcity	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
Heist	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass	25
		Normal	700	Needleandthread	15
		Unfavorable	500	Winterfat	10
				Fourwing saltbush	10
				Wyoming big sagebrush	10
				Nevada Mormon tea	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Western wheatgrass	5
				Bottlebrush squirreltail	5
				Other shrubs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
16:					
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5
Taylorsflat	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	1,100	Big sagebrush	15
		Normal	700	Needleandthread	10
		Unfavorable	400	Bottlebrush squirreltail	10
				Other perennial forbs	10
				Shadscale	5
				Indian ricegrass	5
				Arrowleaf balsamroot	5
				Sandberg bluegrass	5
				Hawksbeard	5
				Other perennial grasses	5
				Winterfat	5
				Other shrubs	5
Mellor	Alkali Flat (Black Greasewood)	Favorable	1,000	Black greasewood	50
		Normal	700	Bottlebrush squirreltail	15
		Unfavorable	350	Other perennial grasses	5
				Shadscale	5
				Other annual forbs	5
				Seepweed	5
				Trident saltbush	5
				Alkali sacaton	5
				Other shrubs	5
17:					
Bonolden	Upland Loam (Basin Big Sagebrush)	Favorable	1,400	Bluebunch wheatgrass	25
		Normal	1,200	Mountain big sagebrush	15
		Unfavorable	700	Bluegrass	10
				Indian ricegrass	10
				Douglas rabbitbrush	5
				Western wheatgrass	5
				Arrowleaf balsamroot	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
18:					
Bonolden	Upland Loam (Basin Big Sagebrush)	Favorable	1,400	Bluebunch wheatgrass	25
		Normal	1,200	Mountain big sagebrush	15
		Unfavorable	700	Bluegrass	10
				Indian ricegrass	10
				Douglas rabbitbrush	5
				Western wheatgrass	5
				Arrowleaf balsamroot	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
18:					
Erda------------	Upland Loam (Basin Big Sagebrush)	Favorable	1,400	Bluebunch wheatgrass------------	25
		Normal	1,200	Mountain big sagebrush----------	15
		Unfavorable	700	Bluegrass-----------------------	10
				Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Western wheatgrass--------------	5
				Arrowleaf balsamroot------------	5
				Other perennial forbs-----------	5
				Other shrubs--------------------	5
				Other perennial grasses---------	5
				Antelope bitterbrush------------	5
				Bottlebrush squirreltail--------	5
19:					
Borvant---------	Upland Shallow Hardpan (Pinyon-Utah Juniper)	Favorable	850	Bluebunch wheatgrass------------	20
		Normal	700	Wyoming big sagebrush-----------	15
		Unfavorable	400	Indian ricegrass----------------	15
				Bluegrass-----------------------	10
				Cliffrose-----------------------	10
				Needleandthread-----------------	10
				Phlox---------------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Other shrubs--------------------	5
20:					
Borvant---------	Upland Shallow Hardpan (Pinyon-Utah Juniper)	Favorable	850	Bluebunch wheatgrass------------	20
		Normal	700	Wyoming big sagebrush-----------	15
		Unfavorable	400	Indian ricegrass----------------	15
				Bluegrass-----------------------	10
				Cliffrose-----------------------	10
				Needleandthread-----------------	10
				Phlox---------------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Other shrubs--------------------	5
Jardal----------	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass------------	30
		Normal	900	Big sagebrush-------------------	15
		Unfavorable	500	Other shrubs--------------------	10
				Hood phlox----------------------	5
				Douglas rabbitbrush-------------	5
				Muttongrass---------------------	5
				Needleandthread-----------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Antelope bitterbrush------------	5
				Bottlebrush squirreltail--------	5
				Indian ricegrass----------------	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
21:					
Borvant	Upland Shallow Hardpan (Pinyon-Utah Juniper)	Favorable	850	Bluebunch wheatgrass	20
		Normal	700	Wyoming big sagebrush	15
		Unfavorable	400	Indian ricegrass	15
				Bluegrass	10
				Cliffrose	10
				Needleandthread	10
				Phlox	5
				Other perennial forbs	5
				Other perennial grasses	5
				Other shrubs	5
Jardal	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	30
		Normal	900	Big sagebrush	15
		Unfavorable	500	Other shrubs	10
				Hood phlox	5
				Douglas rabbitbrush	5
				Muttongrass	5
				Needleandthread	5
				Other perennial forbs	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
				Indian ricegrass	5
22:					
Borvant	Upland Shallow Hardpan (Pinyon-Utah Juniper)	Favorable	850	Bluebunch wheatgrass	20
		Normal	700	Wyoming big sagebrush	15
		Unfavorable	400	Indian ricegrass	15
				Bluegrass	10
				Cliffrose	10
				Needleandthread	10
				Phlox	5
				Other perennial forbs	5
				Other perennial grasses	5
				Other shrubs	5
Pavant	Upland Shallow Hardpan (Pinyon-Utah Juniper)	Favorable	850	Black sagebrush	20
		Normal	700	Bluebunch wheatgrass	15
		Unfavorable	400	Wyoming big sagebrush	10
				Antelope bitterbrush	10
				Indian ricegrass	10
				Phlox	5
				Needleandthread	5
				Bluegrass	5
				Other perennial forbs	5
				Other perennial grasses	5
				Mexican cliffrose	5
				Other shrubs	5
23:					
Boxelder	Semidesert Limy Loam	Favorable	950	Bottlebrush squirreltail	20
		Normal	675	Wyoming big sagebrush	15
		Unfavorable	400	Indian ricegrass	15
				Other shrubs	10
				Other perennial grasses	10
				Rubber rabbitbrush	5
				Other perennial forbs	5
				Winterfat	5
				Western wheatgrass	5
				Other annual forbs	5
				Scarlet globemallow	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production Kind of year	Total production Dry weight	Characteristic vegetation	Composition
			Lb/acre		Pct
24:					
Boxelder	Semidesert Limy Loam	Favorable	950	Bottlebrush squirreltail	20
		Normal	675	Wyoming big sagebrush	15
		Unfavorable	400	Indian ricegrass	15
				Other shrubs	10
				Other perennial grasses	10
				Rubber rabbitbrush	5
				Other perennial forbs	5
				Winterfat	5
				Western wheatgrass	5
				Other annual forbs	5
				Scarlet globemallow	5
27:					
Cessna	Upland Loam (Basin Big Sagebrush)	Favorable	1,400	Bluebunch wheatgrass	25
		Normal	1,200	Mountain big sagebrush	15
		Unfavorable	700	Bluegrass	10
				Indian ricegrass	10
				Douglas rabbitbrush	5
				Western wheatgrass	5
				Arrowleaf balsamroot	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
28:					
Checkett	Semidesert Shallow Loam (Utah Juniper-Bluebunch Wheatgrass)	Favorable	350	Black sagebrush	30
		Normal	250	Bluebunch wheatgrass	25
		Unfavorable	175	Indian ricegrass	10
				Other perennial grasses	10
				Nevada bluegrass	5
				Other shrubs	5
				Other perennial forbs	5
				Shadscale	5
				Globemallow	5
Amtoft	Semidesert Shallow Loam (Utah Juniper-Bluebunch Wheatgrass)	Favorable	350	Black sagebrush	30
		Normal	250	Bluebunch wheatgrass	25
		Unfavorable	175	Indian ricegrass	10
				Other perennial grasses	10
				Nevada bluegrass	5
				Other shrubs	5
				Other perennial forbs	5
				Shadscale	5
				Globemallow	5
29:					
Church Springs	Upland Loam (Basin Big Sagebrush)	Favorable	1,400	Bluebunch wheatgrass	25
		Normal	1,200	Mountain big sagebrush	15
		Unfavorable	700	Bluegrass	10
				Indian ricegrass	10
				Douglas rabbitbrush	5
				Western wheatgrass	5
				Arrowleaf balsamroot	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Compo-sition
		Kind of year	Dry weight		
			Lb/acre		Pct
30:					
Cloyd	Semidesert Shallow Loam (Black Sagebrush)	Favorable	700	Black sagebrush	25
		Normal	550	Bluebunch wheatgrass	20
		Unfavorable	400	Indian ricegrass	10
				Horsebrush	10
				Shadscale	5
				Nevada bluegrass	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Bottlebrush squirreltail	5
				Other shrubs	5
				Needleandthread	5
Rock outcrop.					
31:					
Collard	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	20
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Other perennial grasses	10
				Prairie junegrass	5
				Indian ricegrass	5
				Aster	5
				Hood phlox	5
				Other shrubs	5
				Muttongrass	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
32:					
Curdli	Desert Flat (Shadscale)	Favorable	650	Shadscale	55
		Normal	450	Winterfat	10
		Unfavorable	350	Bottlebrush squirreltail	10
				Green molly kochia	5
				Other shrubs	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bud sagebrush	5
33:					
Current Spring	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	20
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Other perennial grasses	10
				Prairie junegrass	5
				Indian ricegrass	5
				Aster	5
				Hood phlox	5
				Other shrubs	5
				Muttongrass	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition
			Lb/acre		Pct
34:					
Current Spring--	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass------------	20
		Normal	900	Wyoming big sagebrush-----------	20
		Unfavorable	500	Other perennial grasses---------	10
				Prairie junegrass---------------	5
				Indian ricegrass----------------	5
				Aster---------------------------	5
				Hood phlox----------------------	5
				Other shrubs--------------------	5
				Muttongrass---------------------	5
				Other perennial forbs-----------	5
				Douglas rabbitbrush-------------	5
				Antelope bitterbrush------------	5
				Bottlebrush squirreltail--------	5
Maple Hollow----	Upland Loam (Basin Big Sagebrush)	Favorable	1,400	Bluebunch wheatgrass------------	25
		Normal	1,200	Mountain big sagebrush----------	15
		Unfavorable	700	Bluegrass-----------------------	10
				Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Western wheatgrass--------------	5
				Arrowleaf balsamroot------------	5
				Other perennial forbs-----------	5
				Other shrubs--------------------	5
				Other perennial grasses---------	5
				Antelope bitterbrush------------	5
				Bottlebrush squirreltail--------	5
35:					
Current Spring--	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass------------	20
		Normal	900	Wyoming big sagebrush-----------	20
		Unfavorable	500	Other perennial grasses---------	10
				Prairie junegrass---------------	5
				Indian ricegrass----------------	5
				Aster---------------------------	5
				Hood phlox----------------------	5
				Other shrubs--------------------	5
				Muttongrass---------------------	5
				Other perennial forbs-----------	5
				Douglas rabbitbrush-------------	5
				Antelope bitterbrush------------	5
				Bottlebrush squirreltail--------	5
Maple Hollow----	Upland Loam (Basin Big Sagebrush)	Favorable	1,400	Bluebunch wheatgrass------------	25
		Normal	1,200	Mountain big sagebrush----------	15
		Unfavorable	700	Bluegrass-----------------------	10
				Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Western wheatgrass--------------	5
				Arrowleaf balsamroot------------	5
				Other perennial forbs-----------	5
				Other shrubs--------------------	5
				Other perennial grasses---------	5
				Antelope bitterbrush------------	5
				Bottlebrush squirreltail--------	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
36:					
Deseret---------	Alkali Flat (Black Greasewood)	Favorable	1,000	Black greasewood----------------	50
		Normal	700	Bottlebrush squirreltail--------	15
		Unfavorable	350	Other perennial grasses---------	5
				Shadscale-----------------------	5
				Fourwing saltbush---------------	5
				Seepweed------------------------	5
				Other perennial forbs-----------	5
				Alkali sacaton------------------	5
				Other shrubs--------------------	5
37:					
Donnardo--------	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass------------	20
		Normal	900	Wyoming big sagebrush-----------	20
		Unfavorable	500	Other shrubs--------------------	10
				Other perennial grasses---------	10
				Douglas rabbitbrush-------------	5
				Hood phlox----------------------	5
				Prairie junegrass---------------	5
				Muttongrass---------------------	5
				Other perennial forbs-----------	5
				Indian ricegrass----------------	5
				Antelope bitterbrush------------	5
				Bottlebrush squirreltail--------	5
38:					
Donnardo--------	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass------------	20
		Normal	900	Wyoming big sagebrush-----------	20
		Unfavorable	500	Other shrubs--------------------	10
				Other perennial grasses---------	10
				Douglas rabbitbrush-------------	5
				Hood phlox----------------------	5
				Prairie junegrass---------------	5
				Muttongrass---------------------	5
				Other perennial forbs-----------	5
				Indian ricegrass----------------	5
				Antelope bitterbrush------------	5
				Bottlebrush squirreltail--------	5
Borvant---------	Upland Shallow Hardpan (Pinyon-Utah Juniper)	Favorable	850	Bluebunch wheatgrass------------	20
		Normal	700	Wyoming big sagebrush-----------	15
		Unfavorable	400	Indian ricegrass----------------	15
				Bluegrass-----------------------	10
				Cliffrose-----------------------	10
				Needleandthread-----------------	10
				Phlox---------------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Other shrubs--------------------	5
Collard---------	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass------------	20
		Normal	900	Wyoming big sagebrush-----------	20
		Unfavorable	500	Other perennial grasses---------	10
				Prairie junegrass---------------	5
				Indian ricegrass----------------	5
				Aster---------------------------	5
				Hood phlox----------------------	5
				Other shrubs--------------------	5
				Muttongrass---------------------	5
				Other perennial forbs-----------	5
				Douglas rabbitbrush-------------	5
				Antelope bitterbrush------------	5
				Bottlebrush squirreltail--------	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
39:					
Donnardo	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	20
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Other shrubs	10
				Other perennial grasses	10
				Douglas rabbitbrush	5
				Hood phlox	5
				Prairie junegrass	5
				Muttongrass	5
				Other perennial forbs	5
				Indian ricegrass	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
Kapod	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	20
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Other perennial grasses	10
				Prairie junegrass	5
				Indian ricegrass	5
				Aster	5
				Hood phlox	5
				Other shrubs	5
				Muttongrass	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
42:					
Escalante	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass	25
		Normal	700	Needleandthread	15
		Unfavorable	500	Winterfat	10
				Fourwing saltbush	10
				Wyoming big sagebrush	10
				Nevada Mormon tea	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Western wheatgrass	5
				Bottlebrush squirreltail	5
				Other shrubs	5
43:					
Escalante	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass	25
		Normal	700	Needleandthread	15
		Unfavorable	500	Winterfat	10
				Fourwing saltbush	10
				Wyoming big sagebrush	10
				Nevada Mormon tea	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Western wheatgrass	5
				Bottlebrush squirreltail	5
				Other shrubs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
44:					
Escalante	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush	25
		Normal	800	Bluebunch wheatgrass	20
		Unfavorable	500	Indian ricegrass	10
				Douglas rabbitbrush	5
				Rose pussytoes	5
				Hood phlox	5
				Shadscale	5
				Nevada bluegrass	5
				Other shrubs	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bottlebrush squirreltail	5
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5
Escalante	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass	25
		Normal	700	Needleandthread	15
		Unfavorable	500	Winterfat	10
				Fourwing saltbush	10
				Wyoming big sagebrush	10
				Nevada Mormon tea	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Western wheatgrass	5
				Bottlebrush squirreltail	5
				Other shrubs	5
45:					
Firmage	Semidesert Loam (Basin Big Sagebrush)	Favorable	1,100	Basin big sagebrush	30
		Normal	900	Bottlebrush squirreltail	25
		Unfavorable	600	Winterfat	15
				Other annual forbs	10
				Nevada bluegrass	10
				Douglas rabbitbrush	5
				Indian ricegrass	5
46:					
Firmage	Semidesert Loam (Basin Big Sagebrush)	Favorable	1,100	Basin big sagebrush	30
		Normal	900	Bottlebrush squirreltail	25
		Unfavorable	600	Winterfat	15
				Other annual forbs	10
				Nevada bluegrass	10
				Douglas rabbitbrush	5
				Indian ricegrass	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
46:					
Hiko Peak	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush	25
		Normal	800	Bluebunch wheatgrass	20
		Unfavorable	500	Indian ricegrass	10
				Douglas rabbitbrush	5
				Rose pussytoes	5
				Hood phlox	5
				Shadscale	5
				Nevada bluegrass	5
				Other shrubs	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bottlebrush squirreltail	5
47:					
Freedom	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
48:					
Freedom	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
49:					
Genola	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Wyoming big sagebrush	20
		Normal	500	Bluebunch wheatgrass	20
		Unfavorable	300	Indian ricegrass	10
				Bottlebrush squirreltail	10
				Sandberg bluegrass	10
				Arrowleaf balsamroot	8
				Douglas rabbitbrush	7
				Other perennial forbs	5
				Western wheatgrass	3
				Antelope bitterbrush	3
				Other perennial grasses	2
				Other shrubs	2

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
50:					
Genola	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Wyoming big sagebrush	20
		Normal	500	Bluebunch wheatgrass	20
		Unfavorable	300	Indian ricegrass	10
				Bottlebrush squirreltail	10
				Sandberg bluegrass	10
				Arrowleaf balsamroot	8
				Douglas rabbitbrush	7
				Other perennial forbs	5
				Western wheatgrass	3
				Antelope bitterbrush	3
				Other perennial grasses	2
				Other shrubs	2
51:					
Green River	Wet Saline Meadow	Favorable	2,500	Alkali sacaton	20
		Normal	1,750	Coastal saltgrass	20
		Unfavorable	1,000	Alkali bluegrass	15
				Basin wildrye	10
				Sedge	5
				Rush	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Black greasewood	5
				Trident saltbush	5
Poganeab	Wet Saline Meadow	Favorable	2,500	Alkali sacaton	20
		Normal	1,750	Coastal saltgrass	20
		Unfavorable	1,000	Alkali bluegrass	15
				Basin wildrye	10
				Sedge	5
				Rush	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Black greasewood	5
				Trident saltbush	5
52:					
Heist	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass	25
		Normal	700	Needleandthread	15
		Unfavorable	500	Winterfat	10
				Fourwing saltbush	10
				Wyoming big sagebrush	10
				Nevada Mormon tea	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Western wheatgrass	5
				Bottlebrush squirreltail	5
				Other shrubs	5
53:					
Heist	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass	25
		Normal	700	Needleandthread	15
		Unfavorable	500	Winterfat	10
				Fourwing saltbush	10
				Wyoming big sagebrush	10
				Nevada Mormon tea	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Western wheatgrass	5
				Bottlebrush squirreltail	5
				Other shrubs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
54:					
Heist	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass	25
		Normal	700	Needleandthread	15
		Unfavorable	500	Winterfat	10
				Fourwing saltbush	10
				Wyoming big sagebrush	10
				Nevada Mormon tea	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Western wheatgrass	5
				Bottlebrush squirreltail	5
				Other shrubs	5
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5
55:					
Heist	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass	25
		Normal	700	Needleandthread	15
		Unfavorable	500	Winterfat	10
				Fourwing saltbush	10
				Wyoming big sagebrush	10
				Nevada Mormon tea	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Western wheatgrass	5
				Bottlebrush squirreltail	5
				Other shrubs	5
Linoyer	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
56:					
Hiko Peak	Semidesert Stony Loam (Black Sagebrush)	Favorable	700	Black sagebrush	20
		Normal	600	Indian ricegrass	15
		Unfavorable	400	Bluebunch wheatgrass	15
				Other shrubs	10
				Douglas rabbitbrush	5
				Hood phlox	5
				Shadscale	5
				Sandberg bluegrass	5
				Hooker balsamroot	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bottlebrush squirreltail	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
57:					
Hiko Peak-------	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush-----------	25
		Normal	800	Bluebunch wheatgrass------------	20
		Unfavorable	500	Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Rose pussytoes------------------	5
				Hood phlox----------------------	5
				Shadscale-----------------------	5
				Nevada bluegrass----------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Bottlebrush squirreltail--------	5
58:					
Hiko Peak-------	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush-----------	25
		Normal	800	Bluebunch wheatgrass------------	20
		Unfavorable	500	Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Rose pussytoes------------------	5
				Hood phlox----------------------	5
				Shadscale-----------------------	5
				Nevada bluegrass----------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Bottlebrush squirreltail--------	5
59:					
Hiko Peak-------	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush-----------	25
		Normal	800	Bluebunch wheatgrass------------	20
		Unfavorable	500	Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Rose pussytoes------------------	5
				Hood phlox----------------------	5
				Shadscale-----------------------	5
				Nevada bluegrass----------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Bottlebrush squirreltail--------	5
60:					
Hiko Peak-------	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush-----------	25
		Normal	800	Bluebunch wheatgrass------------	20
		Unfavorable	500	Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Rose pussytoes------------------	5
				Hood phlox----------------------	5
				Shadscale-----------------------	5
				Nevada bluegrass----------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Bottlebrush squirreltail--------	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
61:					
Hiko Peak-------	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush-----------	25
		Normal	800	Bluebunch wheatgrass------------	20
		Unfavorable	500	Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Rose pussytoes------------------	5
				Hood phlox----------------------	5
				Shadscale-----------------------	5
				Nevada bluegrass----------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Bottlebrush squirreltail--------	5
Amtoft----------	Semidesert Shallow Loam (Utah Juniper-Bluebunch Wheatgrass)	Favorable	350	Black sagebrush-----------------	30
		Normal	250	Bluebunch wheatgrass------------	25
		Unfavorable	175	Indian ricegrass----------------	10
				Other perennial grasses---------	10
				Nevada bluegrass----------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Shadscale-----------------------	5
				Globemallow---------------------	5
62:					
Hiko Peak-------	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush-----------	25
		Normal	800	Bluebunch wheatgrass------------	20
		Unfavorable	500	Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Rose pussytoes------------------	5
				Hood phlox----------------------	5
				Shadscale-----------------------	5
				Nevada bluegrass----------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Bottlebrush squirreltail--------	5
Heist-----------	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass----------------	25
		Normal	700	Needleandthread-----------------	15
		Unfavorable	500	Winterfat-----------------------	10
				Fourwing saltbush---------------	10
				Wyoming big sagebrush-----------	10
				Nevada Mormon tea---------------	5
				Douglas rabbitbrush-------------	5
				Other perennial forbs-----------	5
				Western wheatgrass--------------	5
				Bottlebrush squirreltail--------	5
				Other shrubs--------------------	5
63:					
Hiko Peak-------	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush-----------	25
		Normal	800	Bluebunch wheatgrass------------	20
		Unfavorable	500	Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Rose pussytoes------------------	5
				Hood phlox----------------------	5
				Shadscale-----------------------	5
				Nevada bluegrass----------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Bottlebrush squirreltail--------	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
63:					
Heist-----------	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass----------------	25
		Normal	700	Needleandthread-----------------	15
		Unfavorable	500	Winterfat-----------------------	10
				Fourwing saltbush---------------	10
				Wyoming big sagebrush-----------	10
				Nevada Mormon tea---------------	5
				Douglas rabbitbrush-------------	5
				Other perennial forbs-----------	5
				Western wheatgrass--------------	5
				Bottlebrush squirreltail--------	5
				Other shrubs--------------------	5
64:					
Hiko Peak-------	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush-----------	25
		Normal	800	Bluebunch wheatgrass------------	20
		Unfavorable	500	Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Rose pussytoes------------------	5
				Hood phlox----------------------	5
				Shadscale-----------------------	5
				Nevada bluegrass----------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Bottlebrush squirreltail--------	5
Heist-----------	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass----------------	25
		Normal	700	Needleandthread-----------------	15
		Unfavorable	500	Winterfat-----------------------	10
				Fourwing saltbush---------------	10
				Wyoming big sagebrush-----------	10
				Nevada Mormon tea---------------	5
				Douglas rabbitbrush-------------	5
				Other perennial forbs-----------	5
				Western wheatgrass--------------	5
				Bottlebrush squirreltail--------	5
				Other shrubs--------------------	5
65:					
Hiko Peak-------	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush-----------	25
		Normal	800	Bluebunch wheatgrass------------	20
		Unfavorable	500	Indian ricegrass----------------	10
				Douglas rabbitbrush-------------	5
				Rose pussytoes------------------	5
				Hood phlox----------------------	5
				Shadscale-----------------------	5
				Nevada bluegrass----------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Bottlebrush squirreltail--------	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
65:					
Pibler	Semidesert Shallow Hardpan (8-10 Ppt)	Favorable	600	Black sagebrush	30
		Normal	400	Indian ricegrass	20
		Unfavorable	250	Needleandthread	10
				Other perennial grasses	10
				Phlox	5
				Winterfat	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Bottlebrush squirreltail	5
				Other shrubs	5
66:					
Jardal	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	30
		Normal	900	Big sagebrush	15
		Unfavorable	500	Other shrubs	10
				Hood phlox	5
				Douglas rabbitbrush	5
				Muttongrass	5
				Needleandthread	5
				Other perennial forbs	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
				Indian ricegrass	5
Donnardo	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	20
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Other shrubs	10
				Other perennial grasses	10
				Douglas rabbitbrush	5
				Hood phlox	5
				Prairie junegrass	5
				Muttongrass	5
				Other perennial forbs	5
				Indian ricegrass	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
67:					
Jigsaw	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
68:					
Jigsaw	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
68:					
Oakcity	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
69:					
Kanosh	Desert Salty Silt (Pickleweed)	Favorable	250	Pickleweed	50
		Normal	200	Inland saltgrass	35
		Unfavorable	100	Seepweed	5
				Other shrubs	5
70:					
Kapod	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	20
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Other perennial grasses	10
				Prairie junegrass	5
				Indian ricegrass	5
				Aster	5
				Hood phlox	5
				Other shrubs	5
				Muttongrass	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
71:					
Kapod	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	20
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Other perennial grasses	10
				Prairie junegrass	5
				Indian ricegrass	5
				Aster	5
				Hood phlox	5
				Other shrubs	5
				Muttongrass	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
Collard	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	750	Bluebunch wheatgrass	15
		Normal	550	Mountain big sagebrush	15
		Unfavorable	350	Birchleaf mountainmahogany	10
				Indian ricegrass	10
				Black sagebrush	10
				Bluegrass	10
				Antelope bitterbrush	10
				Other perennial grasses	5
				Other perennial forbs	5
				Needleandthread	5
				Other shrubs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
72:					
Kapod	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	20
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Other perennial grasses	10
				Prairie junegrass	5
				Indian ricegrass	5
				Aster	5
				Hood phlox	5
				Other shrubs	5
				Muttongrass	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
Rock outcrop.					
73:					
Kessler	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	850	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	400	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
74:					
Kessler	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	850	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	400	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
75:					
Kessler	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	850	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	400	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
Linoyer	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
76:					
Kidman	Upland Loam (Basin Big Sagebrush)	Favorable	1,400	Bluebunch wheatgrass	25
		Normal	1,200	Mountain big sagebrush	15
		Unfavorable	700	Bluegrass	10
				Indian ricegrass	10
				Douglas rabbitbrush	5
				Western wheatgrass	5
				Arrowleaf balsamroot	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
Preston	Upland Sand (Indian Ricegrass)	Favorable	1,400	Indian ricegrass	20
		Normal	900	Needleandthread	15
		Unfavorable	700	Antelope bitterbrush	10
				Other perennial forbs	10
				Western wheatgrass	10
				Rubber rabbitbrush	5
				Basin big sagebrush	5
				Arrowleaf balsamroot	5
				Other perennial grasses	5
				Louisiana sagewort	5
				Sand dropseed	5
				Other shrubs	5
77:					
Kitchell	Mountain Gravelly Loam (Douglas Fir)	Favorable	900	Slender wheatgrass	25
		Normal	500	Mountain snowberry	20
		Unfavorable	400	Common chokecherry	20
				Saskatoon serviceberry	5
				Oregongrape	5
				Heartleaf arnica	5
				Elk sedge	5
				Wheeler bluegrass	5
				Engelmann aster	5
				Other shrubs	5
78:					
Kudlac	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	700	Bluebunch wheatgrass	25
		Normal	500	Wyoming big sagebrush	20
		Unfavorable	300	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
79:					
Larwood	Semidesert Alkali Sandy Loam (Alkali Sacaton)	Favorable	800	Alkali sacaton	40
		Normal	600	Indian ricegrass	15
		Unfavorable	350	Black greasewood	10
				Basin big sagebrush	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Galleta	5
				Bottlebrush squirreltail	5
				Rubber rabbitbrush	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
79:					
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5
80:					
Lava flows.					
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5
81:					
Lava flows.					
Shotwell	Semidesert Shallow Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	20
		Normal	650	Wyoming big sagebrush	20
		Unfavorable	300	Indian ricegrass	10
				Other shrubs	10
				Nevada bluegrass	5
				Needleandthread	5
				Bottlebrush squirreltail	5
				Other perennial grasses	5
				Gooseberryleaf globemallow	5
				Other perennial forbs	5
				Nevada Mormon tea	5
				Mexican cliffrose	5
82:					
Linoyer	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
83:					
Linoyer	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
84:					
Lizzant	Mountain Gravelly Loam (Oak)	Favorable	2,300	Gambel oak	30
		Normal	1,900	Bearded wheatgrass	15
		Unfavorable	1,500	Other perennial forbs	10
				Aster	5
				Bigtooth maple	5
				Mountain brome	5
				Mountain snowberry	5
				Birchleaf mountainmahogany	5
				Nevada bluegrass	5
				Bluebunch wheatgrass	5
				Other perennial grasses	5
				Mountain big sagebrush	5
85:					
Lodar	Upland Shallow Loam (Pinyon-Utah Juniper)	Favorable	700	Bluebunch wheatgrass	20
		Normal	500	Black sagebrush	15
		Unfavorable	200	Indian ricegrass	10
				Bluegrass	10
				Birchleaf mountainmahogany	5
				Mexican cliffrose	5
				Mountain big sagebrush	5
				Blue grama	5
				Other perennial forbs	5
				Needleandthread	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Other shrubs	5
86:					
Lodar	Upland Shallow Loam (Pinyon-Utah Juniper)	Favorable	700	Bluebunch wheatgrass	20
		Normal	500	Black sagebrush	15
		Unfavorable	200	Indian ricegrass	10
				Bluegrass	10
				Birchleaf mountainmahogany	5
				Mexican cliffrose	5
				Mountain big sagebrush	5
				Blue grama	5
				Other perennial forbs	5
				Needleandthread	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Other shrubs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
86:					
Kidman	Upland Loam (Basin Big Sagebrush)	Favorable	1,400	Bluebunch wheatgrass	25
		Normal	1,200	Mountain big sagebrush	15
		Unfavorable	700	Bluegrass	10
				Indian ricegrass	10
				Douglas rabbitbrush	5
				Western wheatgrass	5
				Arrowleaf balsamroot	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
87:					
Lodar	Upland Shallow Loam (Pinyon-Utah Juniper)	Favorable	700	Bluebunch wheatgrass	20
		Normal	500	Black sagebrush	15
		Unfavorable	200	Indian ricegrass	10
				Bluegrass	10
				Birchleaf mountainmahogany	5
				Mexican cliffrose	5
				Mountain big sagebrush	5
				Blue grama	5
				Other perennial forbs	5
				Needleandthread	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Other shrubs	5
Rock outcrop.					
88:					
Lonjon	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	20
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Other perennial grasses	10
				Prairie junegrass	5
				Indian ricegrass	5
				Aster	5
				Hood phlox	5
				Other shrubs	5
				Muttongrass	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
89:					
Manassa	Alkali Flat (Black Greasewood)	Favorable	1,000	Black greasewood	50
		Normal	700	Bottlebrush squirreltail	15
		Unfavorable	350	Other perennial grasses	5
				Shadscale	5
				Other annual forbs	5
				Seepweed	5
				Trident saltbush	5
				Alkali sacaton	5
				Other shrubs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
90:					
Manassa	Alkali Flat (Black Greasewood)	Favorable	1,000	Black greasewood	50
		Normal	700	Bottlebrush squirreltail	15
		Unfavorable	350	Other perennial grasses	5
				Shadscale	5
				Other annual forbs	5
				Seepweed	5
				Trident saltbush	5
				Alkali sacaton	5
				Other shrubs	5
Mellor	Alkali Flat (Black Greasewood)	Favorable	1,000	Black greasewood	50
		Normal	700	Bottlebrush squirreltail	15
		Unfavorable	350	Other perennial grasses	5
				Shadscale	5
				Other annual forbs	5
				Seepweed	5
				Trident saltbush	5
				Alkali sacaton	5
				Other shrubs	5
91:					
Medburn	Semidesert Alkali Sandy Loam (Alkali Sacaton)	Favorable	800	Alkali sacaton	40
		Normal	600	Indian ricegrass	15
		Unfavorable	350	Black greasewood	10
				Basin big sagebrush	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Galleta	5
				Bottlebrush squirreltail	5
				Rubber rabbitbrush	5
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5
Escalante	Semidesert Sandy Loam (Wyoming Big Sagebrush)	Favorable	900	Indian ricegrass	25
		Normal	700	Needleandthread	15
		Unfavorable	500	Winterfat	10
				Fourwing saltbush	10
				Wyoming big sagebrush	10
				Nevada Mormon tea	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Western wheatgrass	5
				Bottlebrush squirreltail	5
				Other shrubs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
93:					
Musinia	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
94:					
Musinia	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
95:					
Oakcity	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
96:					
Oasis	Alkali Flat (Black Greasewood)	Favorable	1,000	Black greasewood	50
		Normal	700	Bottlebrush squirreltail	15
		Unfavorable	300	Other perennial grasses	5
				Fourwing saltbush	5
				Other annual forbs	5
				Seepweed	5
				Shadscale	5
				Alkali sacaton	5
				Other shrubs	5
97:					
Pibler	Semidesert Shallow Hardpan (8-10 Ppt)	Favorable	600	Black sagebrush	30
		Normal	400	Indian ricegrass	20
		Unfavorable	250	Needleandthread	10
				Other perennial grasses	10
				Phlox	5
				Winterfat	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Bottlebrush squirreltail	5
				Other shrubs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
98:					
Pibler	Semidesert Shallow Hardpan (8-10 Ppt)	Favorable	600	Black sagebrush	30
		Normal	400	Indian ricegrass	20
		Unfavorable	250	Needleandthread	10
				Other perennial grasses	10
				Phlox	5
				Winterfat	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Bottlebrush squirreltail	5
				Other shrubs	5
Pober	Semidesert Stony Loam (Black Sagebrush)	Favorable	700	Black sagebrush	30
		Normal	600	Wyoming big sagebrush	20
		Unfavorable	400	Indian ricegrass	15
				Shadscale	10
				Bluebunch wheatgrass	10
				Douglas rabbitbrush	10
				Other shrubs	10
				Winterfat	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bottlebrush squirreltail	5
99:					
Pober	Semidesert Stony Loam (Black Sagebrush)	Favorable	700	Black sagebrush	30
		Normal	600	Wyoming big sagebrush	20
		Unfavorable	400	Indian ricegrass	15
				Shadscale	10
				Bluebunch wheatgrass	10
				Douglas rabbitbrush	10
				Other shrubs	10
				Winterfat	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bottlebrush squirreltail	5
100:					
Pober	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush	25
		Normal	800	Bluebunch wheatgrass	20
		Unfavorable	500	Indian ricegrass	10
				Douglas rabbitbrush	5
				Rose angelica	5
				Hood phlox	5
				Shadscale	5
				Nevada bluegrass	5
				Other shrubs	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bottlebrush squirreltail	5
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
101:					
Pober	Semidesert Gravelly Loam (Wyoming Big Sagebrush) North	Favorable	1,000	Wyoming big sagebrush	25
		Normal	800	Bluebunch wheatgrass	20
		Unfavorable	500	Indian ricegrass	10
				Douglas rabbitbrush	5
				Rose angelica	5
				Hood phlox	5
				Shadscale	5
				Nevada bluegrass	5
				Other shrubs	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bottlebrush squirreltail	5
Berent	Semidesert Sand (Fourwing Saltbush)	Favorable	1,100	Indian ricegrass	35
		Normal	700	Fourwing saltbush	15
		Unfavorable	300	Other perennial forbs	10
				Needleandthread	10
				Eriogonum	5
				Rubber rabbitbrush	5
				Douglas rabbitbrush	5
				Basin big sagebrush	5
				Other perennial grasses	5
				Other shrubs	5
102:					
Preston	Upland Sand (Indian Ricegrass)	Favorable	1,400	Indian ricegrass	20
		Normal	900	Needleandthread	15
		Unfavorable	700	Antelope bitterbrush	10
				Other perennial forbs	10
				Western wheatgrass	10
				Rubber rabbitbrush	5
				Basin big sagebrush	5
				Arrowleaf balsamroot	5
				Other perennial grasses	5
				Louisiana sagewort	5
				Sand dropseed	5
				Other shrubs	5
103:					
Probert	Upland Loam (Basin Big Sagebrush)	Favorable	1,400	Bluebunch wheatgrass	25
		Normal	1,200	Mountain big sagebrush	15
		Unfavorable	700	Bluegrass	10
				Indian ricegrass	10
				Douglas rabbitbrush	5
				Western wheatgrass	5
				Arrowleaf balsamroot	5
				Other perennial forbs	5
				Other shrubs	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
104: Rock outcrop.					
Lodar	Upland Shallow Loam (Pinyon-Utah Juniper)	Favorable	700	Bluebunch wheatgrass	20
		Normal	500	Black sagebrush	15
		Unfavorable	200	Indian ricegrass	10
				Bluegrass	10
				Birchleaf mountainmahogany	5
				Mexican cliffrose	5
				Mountain big sagebrush	5
				Blue grama	5
				Other perennial forbs	5
				Needleandthread	5
				Other perennial grasses	5
				Antelope bitterbrush	5
				Other shrubs	5
105: Rock outcrop.					
Shotwell	Semidesert Shallow Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	20
		Normal	650	Wyoming big sagebrush	20
		Unfavorable	300	Indian ricegrass	10
				Other shrubs	10
				Nevada bluegrass	5
				Needleandthread	5
				Bottlebrush squirreltail	5
				Other perennial grasses	5
				Gooseberryleaf globemallow	5
				Other perennial forbs	5
				Nevada Mormon tea	5
				Mexican cliffrose	5
106: Rock outcrop.					
Soma	Semidesert Shallow Loam (Black Sagebrush)	Favorable	700	Black sagebrush	25
		Normal	550	Bluebunch wheatgrass	20
		Unfavorable	400	Indian ricegrass	10
				Horsebrush	10
				Shadscale	5
				Nevada bluegrass	5
				Douglas rabbitbrush	5
				Other perennial forbs	5
				Bottlebrush squirreltail	5
				Other shrubs	5
				Needleandthread	5
107: Searla	Mountain Gravelly Loam (Oak)	Favorable	2,300	Gambel oak	30
		Normal	1,900	Other shrubs	15
		Unfavorable	1,500	Other perennial forbs	10
				Aster	5
				Bigtooth maple	5
				Mountain brome	5
				Mountain snowberry	5
				Birchleaf mountainmahogany	5
				Nevada bluegrass	5
				Bluebunch wheatgrass	5
				Other perennial grasses	5
				Mountain big sagebrush	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
107:					
Kapod	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	20
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Other perennial grasses	10
				Prairie junegrass	5
				Indian ricegrass	5
				Aster	5
				Hood phlox	5
				Other shrubs	5
				Muttongrass	5
				Other perennial forbs	5
				Douglas rabbitbrush	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
108:					
Spager	Semidesert Shallow Hardpan (Utah Juniper)	Favorable	600	Black sagebrush	20
		Normal	400	Bluebunch wheatgrass	15
		Unfavorable	300	Indian ricegrass	15
				Winterfat	10
				Other shrubs	10
				Douglas rabbitbrush	5
				Mormon tea	5
				Other perennial forbs	5
				Needleandthread	5
				Bottlebrush squirreltail	5
				Thickstem wildcabbage	5
109:					
Sterling	Upland Stony Loam (Wyoming Big Sagebrush)	Favorable	1,500	Bluebunch wheatgrass	25
		Normal	900	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	5
				Nevada bluegrass	5
				Antelope bitterbrush	5
				Bottlebrush squirreltail	5
				Muttongrass	5
				Other perennial forbs	5
				Other perennial grasses	5
				Other shrubs	5
				Prairie junegrass	5
				Spiny phlox	5
110:					
Taylorsflat	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	10
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
111:					
Taylorsflat-----	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass------------	25
		Normal	700	Wyoming big sagebrush-----------	10
		Unfavorable	500	Indian ricegrass----------------	10
				Other shrubs--------------------	10
				Bottlebrush squirreltail--------	10
				Needleandthread-----------------	5
				Hood phlox----------------------	5
				Douglas rabbitbrush-------------	5
				Scarlet globemallow-------------	5
				Penstemon-----------------------	5
112:					
Thiokol---------	Desert Loam (Shadscale)---------	Favorable	700	Indian ricegrass----------------	20
		Normal	600	Shadscale-----------------------	20
		Unfavorable	500	Bud sagebrush-------------------	10
				Winterfat-----------------------	10
				Bottlebrush squirreltail--------	10
				Other shrubs--------------------	10
				Milkvetch-----------------------	5
				Other perennial grasses---------	5
				Other perennial forbs-----------	5
				Scarlet globemallow-------------	5
113:					
Timpie----------	Alkali Flat (Black Greasewood)	Favorable	1,000	Black greasewood----------------	50
		Normal	700	Bottlebrush squirreltail--------	15
		Unfavorable	300	Other perennial grasses---------	5
				Fourwing saltbush---------------	5
				Other annual forbs--------------	5
				Seepweed------------------------	5
				Shadscale-----------------------	5
				Alkali sacaton------------------	5
				Other shrubs--------------------	5
114:					
Timpie----------	Alkali Flat (Black Greasewood)	Favorable	1,000	Black greasewood----------------	50
		Normal	700	Bottlebrush squirreltail--------	15
		Unfavorable	300	Other perennial grasses---------	5
				Fourwing saltbush---------------	5
				Other annual forbs--------------	5
				Seepweed------------------------	5
				Shadscale-----------------------	5
				Alkali sacaton------------------	5
				Other shrubs--------------------	5
Uvada-----------	Desert Flat (Shadscale)---------	Favorable	650	Shadscale-----------------------	55
		Normal	450	Winterfat-----------------------	10
		Unfavorable	350	Bottlebrush squirreltail--------	10
				Gray molly----------------------	5
				Other shrubs--------------------	5
				Other perennial forbs-----------	5
				Other perennial grasses---------	5
				Bud sagebrush-------------------	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
115:					
Tooele	Desert Sandy Loam (Shadscale)	Favorable	600	Indian ricegrass	30
		Normal	450	Shadscale	15
		Unfavorable	200	Winterfat	15
				Galleta	5
				Douglas rabbitbrush	5
				Bud sagebrush	5
				Needleandthread	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bottlebrush squirreltail	5
				Other shrubs	5
116:					
Uffens	Desert Flat (Shadscale)	Favorable	650	Shadscale	55
		Normal	450	Winterfat	10
		Unfavorable	350	Bottlebrush squirreltail	10
				Green molly kochia	5
				Other shrubs	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bud sagebrush	5
117:					
Uffens	Alkali Flat (Black Greasewood)	Favorable	1,000	Black greasewood	50
		Normal	700	Bottlebrush squirreltail	15
		Unfavorable	350	Other perennial grasses	5
				Shadscale	5
				Other annual forbs	5
				Seepweed	5
				Trident saltbush	5
				Alkali sacaton	5
				Other shrubs	5
118:					
Uvada	Desert Flat (Shadscale)	Favorable	650	Shadscale	55
		Normal	450	Winterfat	10
		Unfavorable	350	Bottlebrush squirreltail	10
				Gray molly	5
				Other shrubs	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bud sagebrush	5
119:					
Uvada	Desert Flat (Shadscale)	Favorable	650	Shadscale	55
		Normal	450	Winterfat	10
		Unfavorable	350	Bottlebrush squirreltail	10
				Gray molly	5
				Other shrubs	5
				Other perennial forbs	5
				Other perennial grasses	5
				Bud sagebrush	5
Yenrab	Desert Alkali Sand (Fourwing Saltbush)	Favorable	700	Indian ricegrass	30
		Normal	500	Fourwing saltbush	15
		Unfavorable	350	Douglas rabbitbrush	10
				Other shrubs	10
				Alkali sacaton	10
				Black greasewood	10
				Other perennial grasses	5
				Bottlebrush squirreltail	5
				Other perennial forbs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
120:					
Woodrow	Semidesert Loam (Wyoming Big Sagebrush)	Favorable	900	Bluebunch wheatgrass	25
		Normal	700	Wyoming big sagebrush	20
		Unfavorable	500	Indian ricegrass	10
				Other shrubs	10
				Bottlebrush squirreltail	10
				Needleandthread	5
				Hood phlox	5
				Douglas rabbitbrush	5
				Scarlet globemallow	5
				Penstemon	5
121:					
Yenrab	Desert Alkali Sand (Fourwing Saltbush)	Favorable	700	Indian ricegrass	30
		Normal	500	Fourwing saltbush	15
		Unfavorable	350	Douglas rabbitbrush	10
				Other shrubs	10
				Alkali sacaton	10
				Black greasewood	10
				Other perennial grasses	5
				Bottlebrush squirreltail	5
				Other perennial forbs	5
122:					
Yenrab	Desert Alkali Sand (Fourwing Saltbush)	Favorable	700	Indian ricegrass	30
		Normal	500	Fourwing saltbush	15
		Unfavorable	350	Douglas rabbitbrush	10
				Other shrubs	10
				Alkali sacaton	10
				Black greasewood	10
				Other perennial grasses	5
				Bottlebrush squirreltail	5
				Other perennial forbs	5
Puddle	Desert Loam (Shadscale)	Favorable	600	Indian ricegrass	20
		Normal	500	Shadscale	20
		Unfavorable	400	Bud sagebrush	10
				Winterfat	10
				Bottlebrush squirreltail	10
				Other shrubs	10
				Milkvetch	5
				Other perennial grasses	5
				Other perennial forbs	5
				Scarlet globemallow	5
123:					
Yenrab	Desert Alkali Sand (Fourwing Saltbush)	Favorable	700	Indian ricegrass	30
		Normal	500	Fourwing saltbush	15
		Unfavorable	350	Douglas rabbitbrush	10
				Other shrubs	10
				Alkali sacaton	10
				Black greasewood	10
				Other perennial grasses	5
				Bottlebrush squirreltail	5
				Other perennial forbs	5

Table 10.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition
		Kind of year	Dry weight		
			Lb/acre		Pct
123:					
Uvada-----------	Alkali Flat (Black Greasewood)	Favorable	1,000	Black greasewood----------------	50
		Normal	700	Bottlebrush squirreltail--------	15
		Unfavorable	350	Other perennial grasses---------	5
				Shadscale-----------------------	5
				Other annual forbs--------------	5
				Seepweed------------------------	5
				Trident saltbush----------------	5
				Alkali sacaton------------------	5
				Other shrubs--------------------	5

Recreation

The soils of the survey area are rated in table 11 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, the ability of the soil to support vegetation, access to water, potential water impoundment sites, and either access to public sewer lines or the capacity of the soil to absorb septic tank effluent. Soils subject to flooding are limited, in varying degrees, for recreational uses by the duration of flooding and the season when it occurs. Onsite assessment of the height, duration, intensity, and frequency of flooding is essential in planning recreational facilities.

Camp areas are tracts of land used intensively as sites for tents, trailers, and campers and for outdoor activities that accompany such sites. These areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The soils are rated on the basis of soil properties that influence the ease of developing camp areas and performance of the areas after development. Also considered are the soil properties that influence trafficability and promote the growth of vegetation after heavy use.

Picnic areas are natural or landscaped tracts of land that are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The soils are rated on the basis of soil properties that influence the cost of shaping the site, trafficability, and the growth of vegetation after development. The surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry.

Playgrounds are areas used intensively for baseball, football, or similar activities. These areas require a nearly level soil that is free of stones and that can withstand heavy foot traffic and maintain an adequate cover of vegetation. The soils are rated on the basis of soil properties that influence the cost of shaping the site, trafficability, and the growth of vegetation. Slope and stoniness are the main concerns in developing playgrounds. The surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry.

Paths and trails are areas used for hiking and horseback riding. The areas should require little or no cutting and filling during site preparation. The soils are rated on the basis of soil properties that influence trafficability and erodibility. Paths and trails should remain firm under foot traffic and not be dusty when dry.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

The interpretative ratings in this table help engineers, planners, and others to understand how soil properties influence recreational uses. Ratings for proposed uses are given in terms of limitations. Only the most restrictive features are listed. Other features may limit a specific recreational use.

The degree of soil limitation is expressed as slight, moderate, or severe.

Slight means that soil properties are favorable for the rated use. The limitations are minor and can be easily overcome. Good performance and low maintenance are expected.

Moderate means that soil properties are moderately favorable for the rated use. The limitations can be overcome or modified by special planning, design, or maintenance. During some part of the year, the expected performance may be less desirable than that of soils rated *slight.*

Severe means that soil properties are unfavorable for the rated use. Examples of limitations are slope, bedrock near the surface, flooding, and a seasonal high water table. These limitations generally require major soil reclamation, special design, or intensive maintenance. Overcoming the limitations generally is difficult and costly.

The information in the table can be supplemented by other information in this survey, for example, interpretations for dwellings without basements and for local roads and streets in table 13 and interpretations for septic tank absorption fields in table 14.

Table 11.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
1:					
Amtoft----------	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Moderate: slope, dusty.	Severe: slope, depth to rock.
Rock outcrop.					
2:					
Amtoft----------	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Moderate: slope, dusty.	Severe: slope, depth to rock.
Spager----------	Severe: slope, cemented pan.	Severe: slope, cemented pan.	Severe: slope, small stones, cemented pan.	Moderate: slope, dusty.	Severe: slope, cemented pan.
3:					
Ashdown---------	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
4:					
Ashdown---------	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
5:					
Atepic----------	Severe: slope, small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: small stones, large stones, slope.
Rock outcrop.					
6:					
Atepic----------	Severe: slope, small stones, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: small stones, large stones, slope.
Sonlet----------	Severe: slope, large stones, small stones.	Severe: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: small stones, large stones, slope.
7:					
Bandag----------	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
8:					
Bandag----------	Moderate: dusty.	Moderate: dusty.	Moderate: slope.	Moderate: dusty.	Slight.
9:					
Bandag----------	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
Berent----------	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
10:					
Beckstrand	Severe: flooding.	Moderate: wetness.	Moderate: wetness.	Slight	Slight.
Benstot	Severe: flooding.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
11:					
Benstot	Severe: flooding.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
Scipio	Severe: flooding, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
12:					
Bentaxle	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope.	Severe: slope, small stones, depth to rock.
Lodar	Severe: slope, large stones, small stones.	Severe: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Severe: slope, small stones.	Severe: small stones, large stones, slope.
13:					
Bentaxle	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope.	Severe: slope, thin layer.
Rock outcrop.					
14:					
Berent	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: too sandy, slope.	Severe: slope.
15:					
Berent	Moderate: slope, too sandy.	Moderate: slope, too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty, slope.
Oakcity	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
Heist	Slight.	Slight.	Moderate: slope.	Slight.	Slight.
16:					
Berent	Moderate: slope, too sandy.	Moderate: slope, too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty, slope.
Taylorsflat	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
Mellor	Severe: excess sodium.	Severe: excess sodium.	Severe: excess sodium.	Moderate: dusty.	Severe: excess sodium, droughty.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
17:					
Bonolden	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
18:					
Bonolden	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
Erda	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
19:					
Borvant	Severe: slope, small stones, cemented pan.	Severe: slope, small stones, cemented pan.	Severe: slope, small stones, cemented pan.	Severe: slope.	Severe: small stones, slope, cemented pan.
20:					
Borvant	Severe: slope, small stones, cemented pan.	Severe: slope, small stones, cemented pan.	Severe: slope, small stones, cemented pan.	Severe: slope.	Severe: small stones, slope, cemented pan.
Jardal	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
21:					
Borvant	Severe: small stones, cemented pan.	Severe: small stones, cemented pan.	Severe: slope, small stones, cemented pan.	Moderate: dusty.	Severe: small stones, cemented pan.
Jardal	Moderate: slope, small stones, dusty.	Moderate: slope, small stones, dusty.	Severe: slope, small stones.	Moderate: dusty.	Moderate: small stones, droughty, slope.
22:					
Borvant	Severe: small stones, cemented pan.	Severe: small stones, cemented pan.	Severe: slope, small stones, cemented pan.	Moderate: dusty.	Severe: small stones, cemented pan.
Pavant	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, cemented pan.	Severe: erodes easily.	Severe: cemented pan.
23:					
Boxelder	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
24:					
Boxelder	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
25:					
Calita	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
Erda	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
26:					
Calita	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
Erda	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
27:					
Cessna	Slight	Slight	Moderate: slope.	Slight	Slight.
28:					
Checkett	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, small stones.	Moderate: large stones, slope, dusty.	Severe: large stones, slope, depth to rock.
Amtoft	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Moderate: slope, dusty.	Severe: slope, depth to rock.
29:					
Church Springs	Moderate: dusty.	Moderate: dusty.	Severe: slope.	Severe: erodes easily.	Slight.
30:					
Cloyd	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, small stones, depth to rock.	Moderate: dusty.	Severe: depth to rock.
Rock outcrop.					
31:					
Collard	Moderate: small stones, dusty.	Moderate: small stones, dusty.	Severe: small stones.	Moderate: dusty.	Moderate: small stones, droughty.
32:					
Curdli	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
33:					
Current Spring	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
34:					
Current Spring	Moderate: slope, small stones, dusty.	Moderate: slope, small stones, dusty.	Severe: slope, small stones.	Moderate: dusty.	Moderate: small stones, large stones, slope.
Maple Hollow	Moderate: slope, dusty.	Moderate: slope, dusty.	Severe: slope.	Moderate: dusty.	Moderate: slope.
35:					
Current Spring	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope, dusty.	Severe: slope.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
35:					
Maple Hollow	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope, dusty.	Severe: slope.
36:					
Deseret	Severe: excess salt.	Severe: excess salt.	Severe: excess salt.	Moderate: dusty.	Severe: excess salt.
37:					
Donnardo	Moderate: slope, large stones, small stones.	Moderate: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Moderate: large stones, dusty.	Severe: large stones.
38:					
Donnardo	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Moderate: large stones.	Moderate: small stones, large stones, droughty.
Borvant	Severe: small stones, cemented pan.	Severe: small stones, cemented pan.	Severe: small stones, cemented pan.	Moderate: dusty.	Severe: small stones, cemented pan.
Collard	Moderate: small stones, dusty.	Moderate: small stones, dusty.	Severe: small stones.	Moderate: dusty.	Moderate: small stones, droughty.
39:					
Donnardo	Moderate: slope, large stones, small stones.	Moderate: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Moderate: large stones, dusty.	Severe: large stones.
Kapod	Moderate: slope, large stones, small stones.	Moderate: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Moderate: dusty.	Moderate: small stones, large stones, slope.
40: Dune land.					
41:					
Erda	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
42:					
Escalante	Slight	Slight	Slight	Slight	Moderate: droughty.
43:					
Escalante	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
44:					
Escalante	Severe: small stones.	Severe: small stones.	Severe: slope, small stones.	Severe: small stones.	Severe: small stones.
Berent	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
44:					
Escalante	Slight	Slight	Moderate: slope.	Slight	Slight.
45:					
Firmage	Moderate: dusty.	Moderate: dusty.	Moderate: slope, small stones, dusty.	Moderate: dusty.	Slight.
46:					
Firmage	Moderate: dusty.	Moderate: dusty.	Moderate: slope, small stones, dusty.	Moderate: dusty.	Slight.
Hiko Peak	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: small stones, large stones, slope.
47:					
Freedom	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
48:					
Freedom	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
49:					
Genola	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
50:					
Genola	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
51:					
Green River	Severe: flooding.	Moderate: dusty.	Moderate: flooding, dusty.	Moderate: dusty.	Moderate: flooding.
Poganeab	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
52:					
Heist	Slight	Slight	Slight	Slight	Slight.
53:					
Heist	Slight	Slight	Moderate: slope.	Slight	Slight.
54:					
Heist	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
Berent	Moderate: slope, too sandy.	Moderate: slope, too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty, slope.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
55:					
Heist	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
Linoyer	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
56:					
Hiko Peak	Severe: large stones, small stones.	Severe: large stones, small stones.	Severe: large stones, slope, small stones.	Severe: large stones, small stones.	Severe: small stones, large stones.
57:					
Hiko Peak	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
58:					
Hiko Peak	Moderate: slope, small stones, dusty.	Moderate: slope, small stones, dusty.	Severe: slope, small stones.	Moderate: dusty.	Moderate: small stones, droughty, slope.
59:					
Hiko Peak	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
60:					
Hiko Peak	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: small stones, large stones, slope.
61:					
Hiko Peak	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
Amtoft	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Moderate: slope, dusty.	Severe: slope, depth to rock.
62:					
Hiko Peak	Moderate: slope, small stones, dusty.	Moderate: slope, small stones, dusty.	Severe: slope, small stones.	Moderate: dusty.	Moderate: small stones, droughty, slope.
Heist	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
63:					
Hiko Peak	Slight	Slight	Slight	Slight	Moderate: droughty.
Heist	Slight	Slight	Slight	Slight	Slight.
64:					
Hiko Peak	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
Heist	Slight	Slight	Moderate: slope.	Slight	Slight.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
65:					
Hiko Peak	Moderate: slope, small stones, dusty.	Moderate: slope, small stones, dusty.	Severe: slope, small stones.	Moderate: dusty.	Moderate: small stones, droughty, slope.
Pibler	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, small stones, cemented pan.	Slight	Severe: cemented pan.
66:					
Jardal	Moderate: slope, small stones, dusty.	Moderate: slope, small stones, dusty.	Severe: slope, small stones.	Moderate: dusty.	Moderate: small stones, droughty, slope.
Donnardo	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Moderate: large stones.	Moderate: small stones, large stones, droughty.
67:					
Jigsaw	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
68:					
Jigsaw	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
Oakcity	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
69:					
Kanosh	Severe: excess salt.	Severe: excess salt.	Severe: excess salt.	Moderate: wetness, dusty.	Severe: excess salt, droughty.
70:					
Kapod	Moderate: slope, large stones, small stones.	Moderate: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Moderate: dusty.	Moderate: small stones, large stones, slope.
71:					
Kapod	Moderate: slope, large stones, small stones.	Moderate: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Moderate: dusty.	Moderate: small stones, large stones, slope.
Collard	Severe: large stones, small stones.	Severe: large stones, small stones.	Severe: large stones, slope, small stones.	Moderate: large stones, dusty.	Severe: small stones, large stones.
72:					
Kapod	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: slope.
Rock outcrop.					

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
73:					
Kessler	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
74:					
Kessler	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
75:					
Kessler	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
Linoyer	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
76:					
Kidman	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Preston	Severe: slope, too sandy.	Severe: slope, too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Severe: slope.
77:					
Kitchell	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
78:					
Kudlac	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, erodes easily.	Severe: slope.
79:					
Larwood	Slight	Slight	Slight	Slight	Slight.
Berent	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
80:					
Lava flows.					
Berent	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
81:					
Lava flows.					
Shotwell	Severe: large stones, depth to rock.	Severe: large stones, depth to rock.	Severe: large stones, small stones.	Severe: large stones.	Severe: large stones, depth to rock.
82:					
Linoyer	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
83:					
Linoyer	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
84:					
Lizzant	Severe: slope, large stones, small stones.	Severe: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Severe: large stones, slope.	Severe: small stones, large stones, slope.
85:					
Lodar	Severe: slope, large stones, small stones.	Severe: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Severe: slope, small stones.	Severe: small stones, large stones, slope.
86:					
Lodar	Severe: slope, large stones, small stones.	Severe: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Severe: slope, small stones.	Severe: small stones, large stones, slope.
Kidman	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
87:					
Lodar	Severe: slope, large stones, small stones.	Severe: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Severe: slope, small stones.	Severe: small stones, large stones, slope.
Rock outcrop.					
88:					
Lonjon	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
89:					
Manassa	Severe: excess salt.	Severe: excess salt.	Severe: excess salt.	Moderate: dusty.	Severe: excess salt.
90:					
Manassa	Severe: excess salt.	Severe: excess salt.	Severe: excess salt.	Moderate: dusty.	Severe: excess salt.
Mellor	Severe: excess sodium.	Severe: excess sodium.	Severe: excess sodium.	Moderate: dusty.	Severe: excess sodium, droughty.
91:					
Medburn	Slight	Slight	Slight	Slight	Moderate: droughty.
Berent	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
Escalante	Slight	Slight	Slight	Slight	Moderate: droughty.
92:					
Memmott	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
93:					
Musinia	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
94:					
Musinia	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
95:					
Oakcity	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
96:					
Oasis	Slight	Slight	Slight	Slight	Slight.
97:					
Pibler	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, small stones, cemented pan.	Slight	Severe: cemented pan.
98:					
Pibler	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, small stones, cemented pan.	Slight	Severe: cemented pan.
Pober	Moderate: slope, dusty.	Moderate: slope, dusty.	Severe: slope.	Moderate: dusty.	Moderate: large stones, droughty, slope.
99:					
Pober	Moderate: slope, dusty.	Moderate: slope, dusty.	Severe: slope.	Moderate: dusty.	Moderate: large stones, droughty, slope.
100:					
Pober	Slight	Slight	Moderate: slope, cemented pan.	Severe: erodes easily.	Severe: droughty.
Berent	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
101:					
Pober	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Severe: droughty.
Berent	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: too sandy, slope.	Severe: slope.
102:					
Preston	Severe: slope, too sandy.	Severe: slope, too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Severe: slope.
103:					
Probert	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
104:					
Rock outcrop.					
Lodar	Severe: slope, large stones, small stones.	Severe: slope, large stones, small stones.	Severe: large stones, slope, small stones.	Severe: slope, small stones.	Severe: small stones, large stones, slope.
105:					
Rock outcrop.					
Shotwell	Severe: large stones, depth to rock.	Severe: large stones, depth to rock.	Severe: large stones, slope, small stones.	Severe: large stones.	Severe: large stones, depth to rock.
106:					
Rock outcrop.					
Soma	Severe: slope, large stones, depth to rock.	Severe: slope, large stones, depth to rock.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: large stones, droughty, slope.
107:					
Searla	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope, dusty.	Severe: slope.
Kapod	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope, dusty.	Severe: slope.
108:					
Spager	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, small stones, cemented pan.	Moderate: dusty.	Severe: cemented pan.
109:					
Sterling	Moderate: dusty.	Moderate: dusty.	Severe: slope.	Moderate: dusty.	Slight.
110:					
Taylorsflat	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Moderate: dusty.	Slight.
111:					
Taylorsflat	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
112:					
Thiokol	Moderate: dusty.	Moderate: dusty.	Moderate: slope, dusty.	Moderate: dusty.	Slight.
113:					
Timpie	Slight	Slight	Slight	Slight	Slight.

Table 11.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
114:					
Timpie	Slight	Slight	Slight	Slight	Slight.
Uvada	Severe: excess sodium.	Severe: excess sodium.	Severe: excess sodium.	Moderate: dusty.	Severe: excess sodium.
115:					
Tooele	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: droughty.
116:					
Uffens	Severe: excess sodium.	Severe: excess sodium.	Severe: excess sodium.	Slight	Severe: excess sodium.
117:					
Uffens	Severe: excess sodium.	Severe: excess sodium.	Severe: excess sodium.	Moderate: dusty.	Severe: excess sodium.
118:					
Uvada	Severe: excess sodium.	Severe: excess sodium.	Severe: excess sodium.	Slight	Severe: excess sodium.
119:					
Uvada	Severe: excess sodium.	Severe: excess sodium.	Severe: excess sodium.	Slight	Severe: excess sodium.
Yenrab	Moderate: too sandy, excess salt.	Moderate: too sandy, excess salt.	Moderate: slope, too sandy, excess salt.	Moderate: too sandy.	Moderate: excess salt, droughty.
120:					
Woodrow	Slight	Slight	Slight	Slight	Slight.
121:					
Yenrab	Moderate: too sandy, excess salt.	Moderate: too sandy, excess salt.	Moderate: slope, too sandy, excess salt.	Moderate: too sandy.	Moderate: excess salt, droughty.
122:					
Yenrab	Moderate: too sandy, excess salt.	Moderate: too sandy, excess salt.	Moderate: slope, too sandy, excess salt.	Moderate: too sandy.	Moderate: excess salt, droughty.
Puddle	Slight	Slight	Slight	Slight	Slight.
123:					
Yenrab	Moderate: too sandy, excess salt.	Moderate: too sandy, excess salt.	Moderate: slope, too sandy, excess salt.	Moderate: too sandy.	Moderate: excess salt, droughty.
Uvada	Severe: excess sodium.	Severe: excess sodium.	Severe: excess sodium.	Moderate: dusty.	Severe: excess sodium.

Wildlife Habitat

By William W. Wood III, wildlife biologist, Natural Resources Conservation Service.

The life cycles and habitat needs of wildlife are highly varied. Some species of invertebrates, reptiles, and small mammals spend their entire lives not more than a few scores of feet from their birthplaces. Most species, however, including many in this survey area, range widely across different soils and habitat types to satisfy their seasonal needs and lifestyles.

In many respects, wildlife species respond according to the quality and quantity of their needed habitat. Habitat elements such as plant composition, food sources, availability of water, migratory corridors, and sites for homes, escape, and thermoregulation are often widely scattered. Animals may be required to move to different elevations or across several different soils and habitat types to satisfy seasonal and daily needs.

In this survey area, many of the soils support several habitat types. With only a few exceptions, each wildlife species can be found on many different soils.

A small, introduced herd of elk is in the Eight Mile area, on the eastern side of Interstate 15, near the town of Holden. Generally, the elk do not move to elevations lower than the pinyon-juniper or oakbrush foothills on the eastern side of Interstate 15 in winter. They gradually follow the retreating snowline in spring as new grass shoots become available at the higher elevations. Mule deer are throughout the survey area at most times during the year. Some local deer populations have become established and are associated exclusively with the cropland, irrigated pastureland, and surrounding rangeland. Other bands migrate from the mountaintops and hillsides down into the adjoining valleys in winter and during periods of heavy snowfall. Scattered groups of chukar partridge can be found on the hillsides of the Pahvant Range, in the area north of Fillmore and extending south to Kanosh.

The survey area also provides habitat for a wide variety of raptors. Cooper's hawk, American kestrel, red-tailed hawk, prairie falcon, rough-legged hawk, Swainson's hawk, and Ferruginous hawk use the area at some time during the year. Round Valley, south of the town of Scipio, often hosts concentrations of bald eagle and some golden eagle in winter. The eagles feed on the waterfowl in the Scipio Lake area and on populations of desert cottontail and jackrabbits.

Other than the federally protected birds of prey, no endangered or threatened animal or bird species are known to inhabit the survey area.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. If food, cover, or water is lacking, inadequate, or inaccessible, wildlife will be scarce or will not inhabit the area.

If the soils have potential for habitat development, wildlife habitat can be created or improved by planting appropriate vegetation, properly managing the existing plant cover, and fostering the natural establishment of desirable plants.

In table 12, the soils are rated according to their potential for providing habitat for various kinds of wildlife. The soils are rated according to their most common condition. Soils that generally are irrigated are rated assuming that irrigation is included in management. Soils that generally are not irrigated are rated assuming that the source of moisture is precipitation or, in some cases, groundwater at a shallow depth. The information in the table can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

Elements of Wildlife Habitat

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Examples are wheat, rye, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Examples are fescue, bromegrass, timothy, orchardgrass, clover, alfalfa, trefoil, reed canarygrass, and crownvetch.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Examples are bluebunch wheatgrass, Indian ricegrass, bottlebrush squirreltail, lambsquarters, dandelions, ragweed, western wheatgrass, fescue, and nightshade.

The major soil properties affecting the growth of grain and forage crops and wild herbaceous plants are depth of the root zone, texture of the surface layer, the amount of water available to plants, wetness, salinity or sodicity, and flooding. The length of the growing season also is important.

Coniferous plants are cone-bearing trees, shrubs, and ground cover that furnish browse, seed, and fruitlike cones. Examples are pine, spruce, fir, Douglas fir, and juniper.

The major soil properties affecting the growth of coniferous plants are depth of the root zone, the amount of water available to plants, and wetness.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Examples of shrubs are mountainmahogany, bitterbrush, snowberry, and big sagebrush.

The major soil properties that affect the growth of shrubs are depth of the root zone, the amount of water available to plants, salinity, and wetness.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Examples of wetland plants are smartweed, wild millet, rushes, sedges, bulrushes, wild rice, arrowhead, waterplantain, pickerelweed, and cattail.

The major soil properties affecting wetland plants are texture of the surface layer, wetness, acidity or alkalinity, and slope.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures in marshes or streams. Examples of shallow water areas are muskrat marshes, waterfowl feeding areas, wildlife watering developments, and beaver ponds and other wildlife ponds.

The major soil properties affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability.

Kinds of Wildlife Habitat

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, and shrubs. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include Hungarian partridge, pheasant, sharp-tailed grouse, sage grouse, meadowlark, field sparrow, killdeer, cottontail rabbit, and red fox.

Habitat for woodland wildlife consists of areas of hardwoods or conifers or a mixture of these and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, thrushes, woodpeckers, owls, tree squirrels, porcupine, raccoon, deer, and elk.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas that support water-tolerant plants. Wildlife attracted to these areas include ducks, geese, herons, bitterns, rails, kingfishers, muskrat, otter, mink, and beaver.

Habitat for rangeland wildlife consists of areas of shrubs and wild herbaceous plants. Wildlife attracted to these areas include antelope, deer, sage grouse, meadowlark, and lark bunting.

Table 12.--Wildlife Habitat

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
1:											
Amtoft----------	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Rock outcrop.											
2:											
Amtoft----------	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Spager----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor.
3:											
Ashdown---------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
4:											
Ashdown---------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
5:											
Atepic----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Rock outcrop.											
6:											
Atepic----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Sonlet----------	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
7:											
Bandag----------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
8:											
Bandag----------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
9:											
Bandag----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
Berent----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
10:											
Beckstrand------	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Fair.
Benstot---------	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Fair.
11:											
Benstot---------	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Fair.
Scipio----------	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair	Fair.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
12:											
Bentaxle--------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Lodar-----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
13:											
Bentaxle--------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Rock outcrop.											
14:											
Berent----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
15:											
Berent----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
Oakcity---------	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
Heist-----------	Good	Good	Good	Fair	Good	Very poor.	Very poor.	Good	Good	Very poor.	Good.
16:											
Berent----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
Taylorsflat-----	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Mellor----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.
17:											
Bonolden--------	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.	Good.
18:											
Bonolden--------	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.	Fair.
Erda------------	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
19:											
Borvant---------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
20:											
Borvant---------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Jardal----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
21:											
Borvant---------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Jardal----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
22:											
Borvant---------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Pavant----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
23:											
Boxelder--------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
24:											
Boxelder--------	Poor	Poor	Fair	Poor	Fair	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
25:											
Calita----------	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
Erda------------	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
26:											
Calita----------	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
Erda------------	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
27:											
Cessna----------	Good	Good	Good	Fair	Good	Very poor.	Very poor.	Good	Good	Very poor.	Good.
28:											
Checkett--------	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Poor	Poor	Fair	Very poor.	Fair.
Amtoft----------	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Poor	Poor	Fair	Very poor.	Fair.
29:											
Church Springs--	Poor	Poor	Fair	Fair	Good	Very poor.	Very poor.	Fair	Fair	Very poor.	Good.
30:											
Cloyd-----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Rock outcrop.											
31:											
Collard---------	Poor	Poor	Fair	Fair	Good	Poor	Very poor.	Poor	Fair	Very poor.	Fair.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
32: Curdli----------	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Poor.
33: Current Spring--	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
34: Current Spring--	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Maple Hollow----	Fair	Good	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.	Good.
35: Current Spring--	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Maple Hollow----	Fair	Good	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.	Good.
36: Deseret---------	Good	Good	Good	Poor	Good	Fair	Fair	Good	Fair	Fair	Good.
37: Donnardo--------	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
38: Donnardo--------	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Borvant---------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Collard---------	Poor	Poor	Fair	Fair	Good	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
39: Donnardo--------	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Kapod-----------	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
40: Dune land.											
41: Erda------------	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
42: Escalante-------	Good	Good	Fair	Fair	Good	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
43: Escalante-------	Good	Good	Fair	Fair	Good	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
44:											
Escalante-------	Very poor.	Very poor.	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Berent----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
Escalante-------	Poor	Poor	Fair	Poor	Poor	Poor	Very poor.	Poor	Poor	Very poor.	Poor.
45:											
Firmage---------	Fair	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.	Fair.
46:											
Firmage---------	Fair	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.	Fair.
Hiko Peak-------	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
47:											
Freedom---------	Fair	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.	Fair.
48:											
Freedom---------	Fair	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.	Fair.
49:											
Genola----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
50:											
Genola----------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
51:											
Green River-----	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Poor.
Poganeab--------	Poor	Poor	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Fair	Poor.
52:											
Heist-----------	Good	Good	Good	Fair	Good	Very poor.	Very poor.	Good	Good	Very poor.	Good.
53:											
Heist-----------	Good	Good	Good	Fair	Good	Very poor.	Very poor.	Good	Good	Very poor.	Good.
54:											
Heist-----------	Very poor.	Very poor.	Fair	Poor	Fair	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
Berent----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
55:											
Heist	Very poor.	Very poor.	Fair	Poor	Fair	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
Linoyer	Poor	Poor	Poor	Poor	Poor	Poor	Very poor.	Poor	Poor	Very poor.	Poor.
56:											
Hiko Peak	Very poor.	Very poor.	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.
57:											
Hiko Peak	Very poor.	Very poor.	Fair	Very poor.	Fair	Poor	Very poor.	Poor	Poor	Very poor.	Fair.
58:											
Hiko Peak	Poor	Poor	Poor	Poor	Poor	Poor	Very poor.	Poor	Poor	Very poor.	Poor.
59:											
Hiko Peak	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
60:											
Hiko Peak	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
61:											
Hiko Peak	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Amtoft	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Poor	Poor	Fair	Very poor.	Fair.
62:											
Hiko Peak	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Heist	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
63:											
Hiko Peak	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
Heist	Good	Good	Good	Fair	Good	Very poor.	Very poor.	Good	Good	Very poor.	Good.
64:											
Hiko Peak	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
Heist	Good	Good	Good	Fair	Good	Very poor.	Very poor.	Good	Good	Very poor.	Good.
65:											
Hiko Peak	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Pibler	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
66:											
Jardal	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Donnardo	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
67:											
Jigsaw	Fair	Fair	Good	Good	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
68:											
Jigsaw	Fair	Fair	Good	Good	Fair	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
Oakcity	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
69:											
Kanosh	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Fair	Very poor.	Very poor.	Fair	Very poor.
70:											
Kapod	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
71:											
Kapod	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Collard	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
72:											
Kapod	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Rock outcrop.											
73:											
Kessler	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
74:											
Kessler	Poor	Poor	Poor	Poor	Poor	Poor	Very poor.	Poor	Poor	Very poor.	Poor.
75:											
Kessler	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
Linoyer	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
76:											
Kidman	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
Preston	Very poor.	Very poor.	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
77:											
Kitchell----------	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.	Good.
78:											
Kudlac----------	Very poor.	Poor	Poor	Very poor.	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.	Poor.
79:											
Larwood----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
Berent----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
80:											
Lava flows.											
Berent----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
81:											
Lava flows.											
Shotwell----------	Very poor.	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
82:											
Linoyer----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
83:											
Linoyer----------	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.	Good.
84:											
Lizzant----------	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
85:											
Lodar----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
86:											
Lodar----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Kidman----------	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.	Fair.
87:											
Lodar----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Rock outcrop.											
88:											
Lonjon----------	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
89:											
Manassa---------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
90:											
Manassa---------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Mellor----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.
91:											
Medburn---------	Very poor.	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
Berent----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
Escalante-------	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.	Poor.
92:											
Memmott---------	Fair	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
93:											
Musinia---------	Good	Good	Good	Good	Fair	Poor	Very poor.	Good	Good	Very poor.	Good.
94:											
Musinia---------	Good	Good	Good	Good	Fair	Poor	Very poor.	Good	Good	Very poor.	Good.
95:											
Oakcity---------	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
96:											
Oasis-----------	Fair	Fair	Fair	Poor	Fair	Poor	Very poor.	Fair	Fair	Very poor.	Fair.
97:											
Pibler----------	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Poor.
98:											
Pibler----------	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Poor.
Pober-----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Fair	Very poor.	Poor.
99:											
Pober-----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Fair	Very poor.	Poor.
100:											
Pober-----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Berent----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
101:											
Pober	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Berent	Very poor.	Very poor.	Poor	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
102:											
Preston	Very poor.	Very poor.	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
103:											
Probert	Fair	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.	Fair.
104:											
Rock outcrop.											
Lodar	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
105:											
Rock outcrop.											
Shotwell	Very poor.	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor.
106:											
Rock outcrop.											
Soma	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
107:											
Searla	Very poor.	Very poor.	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
Kapod	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.	Fair.
108:											
Spager	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor.
109:											
Sterling	Poor	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.	Fair.
110:											
Taylorsflat	Good	Good	Good	Fair	Good	Poor	Very poor.	Good	Good	Very poor.	Good.
111:											
Taylorsflat	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.	Fair.
112:											
Thiokol	Poor	Poor	Poor	Poor	Poor	Poor	Very poor.	Poor	Poor	Very poor.	Poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife	Rangeland wildlife
113:											
Timpie----------	Poor	Poor	Poor	Poor	Poor	Poor	Very poor.	Poor	Poor	Very poor.	Poor.
114:											
Timpie----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor.
Uvada-----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
115:											
Tooele----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
116:											
Uffens----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
117:											
Uffens----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
118:											
Uvada-----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
119:											
Uvada-----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Yenrab----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
120:											
Woodrow---------	Good	Good	Good	Fair	Good	Poor	Very poor.	Good	Fair	Very poor.	Fair.
121:											
Yenrab----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
122:											
Yenrab----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Puddle----------	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.	Poor.
123:											
Yenrab----------	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Poor.
Uvada-----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Table 13 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features generally are favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented pan, or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and depth to the water table.

Dwellings and *small commercial buildings* are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrinking and swelling, and organic layers can cause the movement of footings. A high water table, depth to bedrock or to a cemented pan, large stones, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 or 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or stabilized soil material; and a flexible or rigid surface. Cuts and fills generally are limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock or to a cemented pan, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 14 shows the degree and the kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. It also shows the suitability of the soils for use as daily cover for landfill.

Soil properties are important in selecting sites for sanitary facilities and in identifying limiting soil properties and site features to be considered in planning, design, and installation. Soil limitation ratings of *slight, moderate,* or *severe* are given for septic tank absorption fields, sewage lagoons, and trench and area sanitary landfills. Soil suitability ratings of *good, fair,* and *poor* are given for daily cover for landfill.

A rating of *slight* or *good* indicates that the soils have no limitations or that the limitations can be easily overcome. Good performance and low maintenance can be expected. A rating of *moderate* or *fair* indicates that the limitations should be recognized but generally can be overcome by good management or special design. A rating of *severe* or *poor* indicates that overcoming the limitations is difficult or impractical. Increased maintenance may be required.

Septic tank absorption fields are areas in which subsurface systems of tile or perforated pipe distribute effluent from a septic tank into the natural soil. The centerline of the tile is assumed to be at a depth of 24 inches. Only the part of the soil between depths of 24 and 60 inches is considered in making the ratings. The soil properties and site features considered are those that affect the absorption of the effluent, those that affect the construction and maintenance of the system, and those that may affect public health.

The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock or to a cemented pan, and flooding affect absorption of the effluent. Large stones and bedrock or a cemented pan interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted, relatively impervious soil material. Aerobic lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Relatively impervious soil material for the lagoon floor and sides is desirable to minimize seepage and contamination of local ground water.

The table gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock or to a cemented pan, flooding, large stones, and content of organic matter.

Excessive seepage resulting from rapid permeability in the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and a cemented pan can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Trench sanitary landfill is an area where solid waste is disposed of by placing refuse in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil that is excavated from the trench. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. Soil properties that influence the risk of pollution, the ease of excavation, trafficability, and revegetation are the major considerations in rating the soils.

Area sanitary landfill is an area where solid waste is disposed of by placing refuse in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil that is imported from a source away from the site. A final cover of soil at least 2 feet thick is placed over the completed landfill. Soil properties that influence trafficability, revegetation, and the risk of pollution are the main considerations in rating the soils for area sanitary landfills.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground-water pollution. The ratings in the table are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock or to a cemented pan, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium affect trench type landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The suitability of a soil for use as cover is based on properties that affect workability and the ease of digging, moving, and spreading the material over the refuse daily during both wet and dry periods.

Soil texture, wetness, rock fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to soil blowing.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

Waste Management

Soil properties are important when organic waste is applied as fertilizer and wastewater is applied in irrigated areas. They also are important when the soil is used as a medium for the treatment and disposal of the organic waste and wastewater. Unfavorable soil properties can result in environmental damage.

The use of organic waste and wastewater as production resources results in energy and resource conservation and minimizes the problems associated with waste disposal. If disposal is the goal, applying a maximum amount of the organic waste or the wastewater to a minimal area holds costs to a minimum. Environmental damage is the main hazard. If reuse is the goal, a minimum amount should be applied to a maximum area. Environmental damage is unlikely.

Interpretations developed for waste management may include ratings for manure- and food-processing waste, municipal sewage sludge, use of wastewater for irrigation, and treatment of wastewater by slow rate, overland flow, and rapid infiltration processes.

Specific information regarding waste management is available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Construction Materials

Table 15 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In the table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help to determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel, or both. They have at least 5 feet of suitable material, a low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have a moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have one or more of the following characteristics: a plasticity index of more than 10, a high shrink-swell potential, many stones, slopes of more than 25 percent, or a water table at a depth of less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table, only the probability of finding material in suitable quantity in or below the soil is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is as much as 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal high water table at or near the surface.

The surface layer of most soils generally is preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 16 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The limitations are considered *slight* if soil properties and site features generally are favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect irrigation, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In the table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even more than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff.

Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of soil blowing or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity.

Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of soil blowing, low available water capacity, restricted rooting depth, toxic substances such as salts or sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Table 13.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
1:						
Amtoft----------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
Rock outcrop.						
2:						
Amtoft----------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
Spager----------	Severe: cemented pan, slope.	Severe: slope, cemented pan.	Severe: cemented pan, slope.	Severe: slope, cemented pan.	Severe: cemented pan, slope.	Severe: slope, cemented pan.
3:						
Ashdown---------	Slight---------	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
4:						
Ashdown---------	Slight---------	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
5:						
Atepic----------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: small stones, large stones, slope.
Rock outcrop.						
6:						
Atepic----------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: small stones, large stones, slope.
Sonlet----------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: small stones, large stones, slope.
7:						
Bandag----------	Slight---------	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
8:						
Bandag----------	Slight---------	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
9:						
Bandag----------	Slight---------	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
Berent----------	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: droughty.
10:						
Beckstrand------	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding, frost action.	Slight.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
10:						
Benstot	Moderate: wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: low strength, flooding, frost action.	Slight.
11:						
Benstot	Moderate: wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: low strength, flooding, frost action.	Slight.
Scipio	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Moderate: wetness, flooding, frost action.	Moderate: wetness.
12:						
Bentaxle	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	
Lodar	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: small stones, large stones, slope.
13:						
Bentaxle	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, thin layer.
Rock outcrop.						
14:						
Berent	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
15:						
Berent	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
Oakcity	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, low strength.	Slight.
Heist	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
16:						
Berent	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
Taylorsflat	Slight	Slight	Slight	Slight	Slight	Slight.
Mellor	Slight	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Severe: excess sodium, droughty.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
17:						
Bonolden	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
18:						
Bonolden	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
Erda	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
19:						
Borvant	Severe: cemented pan, slope.	Severe: slope, cemented pan.	Severe: cemented pan, slope.	Severe: slope, cemented pan.	Severe: cemented pan, slope.	Severe: small stones, slope, cemented pan.
20:						
Borvant	Severe: cemented pan, slope.	Severe: slope, cemented pan.	Severe: cemented pan, slope.	Severe: slope, cemented pan.	Severe: cemented pan, slope.	Severe: small stones, slope, cemented pan.
Jardal	Severe: cemented pan, slope.	Severe: slope.	Severe: cemented pan, slope.	Severe: slope.	Severe: slope.	Severe: slope.
21:						
Borvant	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, cemented pan.	Severe: cemented pan.	Severe: small stones, cemented pan.
Jardal	Severe: cemented pan.	Moderate: slope, cemented pan.	Severe: cemented pan.	Severe: slope.	Moderate: cemented pan, slope, frost action.	Moderate: small stones, droughty, slope.
22:						
Borvant	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, cemented pan.	Severe: cemented pan.	Severe: small stones, cemented pan.
Pavant	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, cemented pan.	Severe: cemented pan.	Severe: cemented pan.
23:						
Boxelder	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
24:						
Boxelder	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
25:						
Calita	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
Erda	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
26:						
Calita----------	Slight---------	Slight---------	Slight---------	Moderate: slope.	Moderate: frost action.	Slight.
Erda------------	Slight---------	Slight---------	Slight---------	Moderate: slope.	Moderate: frost action.	Slight.
27:						
Cessna----------	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: frost action.	Slight.
28:						
Checkett--------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: large stones, slope, depth to rock.
Amtoft----------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
29:						
Church Springs--	Slight---------	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
30:						
Cloyd-----------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.						
31:						
Collard---------	Severe: cutbanks cave.	Moderate: large stones.	Moderate: large stones.	Moderate: large stones.	Moderate: frost action, large stones.	Moderate: small stones, droughty.
32:						
Curdli----------	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: frost action.	Slight.
33:						
Current Spring--	Severe: slope.	Severe: shrink-swell, slope.	Severe: slope.	Severe: shrink-swell, slope.	Severe: shrink-swell, slope.	Severe: slope.
34:						
Current Spring--	Moderate: too clayey, slope.	Severe: shrink-swell.	Moderate: slope, shrink-swell.	Severe: shrink-swell, slope.	Severe: shrink-swell.	Moderate: small stones, large stones, slope.
Maple Hollow----	Moderate: too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: shrink-swell, low strength.	Moderate: slope.
35:						
Current Spring--	Severe: slope.	Severe: shrink-swell, slope.	Severe: slope.	Severe: shrink-swell, slope.	Severe: shrink-swell, slope.	Severe: slope.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
35:						
Maple Hollow	Severe: slope.	Severe: shrink-swell, slope.	Severe: slope, shrink-swell.	Severe: shrink-swell, slope.	Severe: shrink-swell, low strength, slope.	Severe: slope.
36:						
Deseret	Moderate: wetness.	Moderate: shrink-swell.	Moderate: wetness, shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Severe: excess salt.
37:						
Donnardo	Severe: large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones.
38:						
Donnardo	Moderate: large stones.	Moderate: large stones.	Moderate: large stones.	Moderate: large stones.	Moderate: frost action, large stones.	Moderate: small stones, large stones, droughty.
Borvant	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: small stones, cemented pan.
Collard	Severe: cutbanks cave.	Moderate: large stones.	Moderate: large stones.	Moderate: large stones.	Moderate: frost action, large stones.	Moderate: small stones, droughty.
39:						
Donnardo	Severe: large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones.
Kapod	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, large stones, slope.
40:						
Dune land.						
41:						
Erda	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
42:						
Escalante	Severe: cutbanks cave.	Slight	Slight	Slight	Moderate: frost action.	Moderate: droughty.
43:						
Escalante	Severe: cutbanks cave.	Slight	Slight	Slight	Moderate: frost action.	Moderate: droughty.
44:						
Escalante	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: small stones.
Berent	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
44: Escalante	Slight	Slight	Slight	Slight	Slight	Slight.
45: Firmage	Slight	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Moderate: shrink-swell.	Slight.
46: Firmage	Slight	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Moderate: shrink-swell.	Slight.
Hiko Peak	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, large stones, slope.
47: Freedom	Slight	Slight	Moderate: shrink-swell.	Slight	Moderate: frost action.	Slight.
48: Freedom	Slight	Slight	Moderate: shrink-swell.	Slight	Moderate: frost action.	Slight.
49: Genola	Slight	Slight	Slight	Slight	Severe: frost action.	Slight.
50: Genola	Slight	Slight	Slight	Slight	Severe: frost action.	Slight.
51: Green River	Moderate: wetness, flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding, frost action.	Moderate: flooding.
Poganeab	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness.
52: Heist	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
53: Heist	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
54: Heist	Slight	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
Berent	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
55:						
Heist-----------	Slight---------	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: droughty.
Linoyer---------	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: frost action.	Slight.
56:						
Hiko Peak-------	Severe: large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Severe: large stones.	Severe: small stones, large stones.
57:						
Hiko Peak-------	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: droughty.
58:						
Hiko Peak-------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: small stones, droughty, slope.
59:						
Hiko Peak-------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
60:						
Hiko Peak-------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, large stones, slope.
61:						
Hiko Peak-------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Amtoft----------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
62:						
Hiko Peak-------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, droughty, slope.
Heist-----------	Slight---------	Slight---------	Slight---------	Moderate: slope.	Moderate: frost action.	Slight.
63:						
Hiko Peak-------	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: droughty.
Heist-----------	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: frost action.	Slight.
64:						
Hiko Peak-------	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight.	Moderate: droughty.
Heist-----------	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: frost action.	Slight.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
65:						
Hiko Peak-------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, droughty, slope.
Pibler----------	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, cemented pan.	Severe: cemented pan.	Severe: cemented pan.
66:						
Jardal----------	Severe: cemented pan.	Moderate: slope, cemented pan.	Severe: cemented pan.	Severe: slope.	Moderate: cemented pan, slope, frost action.	Moderate: small stones, droughty, slope.
Donnardo--------	Moderate: large stones, slope.	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope.	Moderate: slope, frost action, large stones.	Moderate: small stones, large stones, droughty.
67:						
Jigsaw----------	Slight---------	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
68:						
Jigsaw----------	Slight---------	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
Oakcity---------	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, low strength.	Slight.
69:						
Kanosh----------	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Severe: excess salt, droughty.
70:						
Kapod-----------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, large stones, slope.
71:						
Kapod-----------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, large stones, slope.
Collard---------	Moderate: large stones, slope.	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope.	Moderate: slope, frost action, large stones.	Severe: small stones, large stones.
72:						
Kapod-----------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Rock outcrop.						

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
73:						
Kessler	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
74:						
Kessler	Slight	Slight	Slight	Moderate: slope.	Moderate: frost action.	Slight.
75:						
Kessler	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
Linoyer	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
76:						
Kidman	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Preston	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
77:						
Kitchell	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
78:						
Kudlac	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
79:						
Larwood	Slight	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
Berent	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
80:						
Lava flows.						
Berent	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
81:						
Lava flows.						
Shotwell	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: large stones, depth to rock.
82:						
Linoyer	Slight	Slight	Slight	Slight	Moderate: frost action.	Slight.
83:						
Linoyer	Slight	Slight	Slight	Slight	Slight	Slight.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
84:						
Lizzant	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: small stones, large stones, slope.
85:						
Lodar	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: small stones, large stones, slope.
86:						
Lodar	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: small stones, large stones, slope.
Kidman	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
87:						
Lodar	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: small stones, large stones, slope.
Rock outcrop.						
88:						
Lonjon	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope.
89:						
Manassa	Slight	Slight	Moderate: shrink-swell.	Slight	Moderate: frost action.	Severe: excess salt.
90:						
Manassa	Slight	Slight	Moderate: shrink-swell.	Slight	Moderate: frost action.	Severe: excess salt.
Mellor	Slight	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Severe: excess sodium, droughty.
91:						
Medburn	Slight	Slight	Slight	Slight	Slight	Moderate: droughty.
Berent	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
Escalante	Severe: cutbanks cave.	Slight	Slight	Slight	Moderate: frost action.	Moderate: droughty.
92:						
Mammott	Moderate: wetness.	Moderate: shrink-swell.	Moderate: wetness, shrink-swell.	Moderate: shrink-swell.	Severe: low strength, frost action.	Slight.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
93: Musinia	Slight	Slight	Moderate: shrink-swell.	Slight	Moderate: frost action.	Slight.
94: Musinia	Slight	Slight	Moderate: shrink-swell.	Slight	Moderate: frost action.	Slight.
95: Oakcity	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, low strength.	Slight.
96: Oasis	Severe: cutbanks cave.	Slight	Slight	Slight	Moderate: frost action.	Slight.
97: Pibler	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, cemented pan.	Severe: cemented pan.	Severe: cemented pan.
98: Pibler	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, cemented pan.	Severe: cemented pan.	Severe: cemented pan.
Pober	Severe: cemented pan.	Moderate: slope, cemented pan, large stones.	Severe: cemented pan.	Severe: slope.	Moderate: cemented pan, slope, large stones.	Moderate: large stones, droughty, slope.
99: Pober	Severe: cemented pan.	Moderate: slope, cemented pan, large stones.	Severe: cemented pan.	Severe: slope.	Moderate: cemented pan, slope, large stones.	Moderate: large stones, droughty, slope.
100: Pober	Severe: cemented pan, cutbanks cave.	Moderate: cemented pan, large stones.	Severe: cemented pan.	Moderate: slope, cemented pan, large stones.	Moderate: cemented pan, frost action.	Severe: droughty.
Berent	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
101: Pober	Severe: cemented pan, cutbanks cave.	Moderate: slope, cemented pan, large stones.	Severe: cemented pan.	Severe: slope.	Moderate: cemented pan, slope, frost action.	Severe: droughty.
Berent	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
102: Preston	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
103:						
Probert---------	Slight---------	Moderate: shrink-swell.	Slight---------	Moderate: shrink-swell, slope.	Moderate: shrink-swell, low strength, frost action.	Slight.
104:						
Rock outcrop.						
Lodar-----------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: small stones, large stones, slope.
105:						
Rock outcrop.						
Shotwell--------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: large stones, depth to rock.
106:						
Rock outcrop.						
Soma------------	Severe: depth to rock, large stones, slope.	Severe: slope, depth to rock, large stones.	Severe: depth to rock, slope, large stones.	Severe: slope, depth to rock, large stones.	Severe: depth to rock, slope, large stones.	Severe: large stones, droughty, slope.
107:						
Searla----------	Severe: large stones, slope.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope.
Kapod-----------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
108:						
Spager----------	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: slope, cemented pan.	Severe: cemented pan.	Severe: cemented pan.
109:						
Sterling--------	Slight---------	Slight---------	Slight---------	Moderate: slope.	Moderate: frost action.	Slight.
110:						
Taylorsflat-----	Slight---------	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
111:						
Taylorsflat-----	Slight---------	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
112:						
Thiokol---------	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: frost action.	Slight.
113:						
Timpie----------	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: frost action.	Slight.

Table 13.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
114:						
Timpie----------	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: frost action.	Slight.
Uvada-----------	Moderate: too clayey.	Severe: shrink-swell.	Slight---------	Severe: shrink-swell.	Severe: shrink-swell, low strength.	Severe: excess sodium.
115:						
Tooele----------	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: droughty.
116:						
Uffens----------	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: frost action.	Severe: excess sodium.
117:						
Uffens----------	Slight---------	Slight---------	Slight---------	Moderate: slope.	Moderate: frost action.	Severe: excess sodium.
118:						
Uvada-----------	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Severe: excess sodium.
119:						
Uvada-----------	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Severe: excess sodium.
Yenrab----------	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: excess salt, droughty.
120:						
Woodrow---------	Slight---------	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength, frost action.	Slight.
121:						
Yenrab----------	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: excess salt, droughty.
122:						
Yenrab----------	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: excess salt, droughty.
Puddle----------	Slight---------	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
123:						
Yenrab----------	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: excess salt, droughty.
Uvada-----------	Severe: cutbanks cave.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Severe: excess sodium.

Table 14.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
1:					
Amtoft	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope.	Poor: depth to rock, small stones, slope.
Rock outcrop.					
2:					
Amtoft	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope.	Poor: depth to rock, small stones, slope.
Spager	Severe: cemented pan, slope.	Severe: cemented pan, slope.	Severe: cemented pan, slope.	Severe: slope.	Poor: cemented pan, small stones, slope.
3:					
Ashdown	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
4:					
Ashdown	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
5:					
Atepic	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, slope.
Rock outcrop.					
6:					
Atepic	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, slope.
Sonlet	Severe: depth to rock, slope.	Severe: depth to rock, slope, large stones.	Severe: depth to rock, slope, large stones.	Severe: depth to rock, slope.	Poor: depth to rock, small stones, slope.
7:					
Bandag	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
8:					
Bandag	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
9:					
Bandag	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
9:					
Berent	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy.
10:					
Beckstrand	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
Benstot	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
11:					
Benstot	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
Scipio	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Poor: wetness.
12:					
Bentaxle	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, slope.	Poor: area reclaim, small stones, slope.
Lodar	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, small stones, slope.
13:					
Bentaxle	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, slope.	Poor: area reclaim, small stones, slope.
Rock outcrop.					
14:					
Berent	Severe: poor filter, slope.	Severe: seepage, slope.	Severe: slope, too sandy.	Severe: slope.	Poor: too sandy, slope.
15:					
Berent	Severe: poor filter.	Severe: seepage, slope.	Severe: too sandy.	Moderate: slope.	Poor: too sandy.
Oakcity	Severe: percs slowly.	Slight	Severe: depth to rock.	Slight	Poor: hard to pack.
Heist	Slight	Severe: seepage.	Slight	Slight	Good.
16:					
Berent	Severe: poor filter.	Severe: seepage, slope.	Severe: too sandy.	Moderate: slope.	Poor: too sandy.
Taylorsflat	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
16:					
Mellor	Severe: percs slowly.	Slight	Severe: excess salt.	Slight	Good.
17:					
Bonolden	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
18:					
Bonolden	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
Erda	Severe: percs slowly.	Slight	Slight	Slight	Good.
19:					
Borvant	Severe: cemented pan, slope.	Severe: cemented pan, slope.	Severe: cemented pan, slope.	Severe: cemented pan, slope.	Poor: cemented pan, small stones, slope.
20:					
Borvant	Severe: cemented pan, slope.	Severe: cemented pan, slope.	Severe: cemented pan, slope.	Severe: cemented pan, slope.	Poor: cemented pan, small stones, slope.
Jardal	Severe: cemented pan, slope.	Severe: seepage, cemented pan, slope.	Severe: cemented pan, seepage, slope.	Severe: cemented pan, seepage, slope.	Poor: cemented pan, seepage, small stones.
21:					
Borvant	Severe: cemented pan.	Severe: cemented pan, slope.	Severe: cemented pan.	Severe: cemented pan.	Poor: cemented pan, small stones.
Jardal	Severe: cemented pan.	Severe: seepage, cemented pan, slope.	Severe: cemented pan, seepage.	Severe: cemented pan, seepage.	Poor: cemented pan, seepage, small stones.
22:					
Borvant	Severe: cemented pan.	Severe: cemented pan, slope.	Severe: cemented pan.	Severe: cemented pan.	Poor: cemented pan, small stones.
Pavant	Severe: cemented pan.	Severe: cemented pan, slope.	Severe: cemented pan.	Severe: cemented pan.	Poor: cemented pan.
23:					
Boxelder	Severe: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
24:					
Boxelder	Severe: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
25:					
Calita	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
Erda	Severe: percs slowly.	Slight	Slight	Slight	Good.
26:					
Calita	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
Erda	Severe: percs slowly.	Moderate: slope.	Slight	Slight	Good.
27:					
Cessna	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
28:					
Checkett	Severe: depth to rock, slope.	Severe: depth to rock, slope, large stones.	Severe: depth to rock, slope, large stones.	Severe: slope.	Poor: depth to rock, small stones, slope.
Amtoft	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope.	Poor: depth to rock, small stones, slope.
29:					
Church Springs	Severe: percs slowly.	Moderate: slope.	Moderate: too clayey.	Slight	Fair: too clayey.
30:					
Cloyd	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Moderate: slope.	Poor: depth to rock.
Rock outcrop.					
31:					
Collard	Severe: poor filter.	Severe: seepage.	Severe: large stones.	Slight	Poor: small stones.
32:					
Curdli	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
33:					
Current Spring	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: small stones, slope.
34:					
Current Spring	Severe: percs slowly.	Severe: slope.	Moderate: slope, too clayey, large stones.	Moderate: slope.	Poor: small stones.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
34:					
Maple Hollow	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey.
35:					
Current Spring	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: small stones, slope.
Maple Hollow	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: too clayey, slope.
36:					
Deseret	Severe: percs slowly.	Slight	Severe: wetness.	Slight	Good.
37:					
Donnardo	Severe: large stones.	Severe: seepage, slope, large stones.	Severe: large stones.	Moderate: slope.	Poor: large stones.
38:					
Donnardo	Moderate: percs slowly, large stones.	Severe: seepage.	Severe: large stones.	Slight	Poor: large stones.
Borvant	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Severe: cemented pan.	Poor: cemented pan, small stones.
Collard	Severe: poor filter.	Severe: seepage.	Severe: large stones.	Slight	Poor: small stones.
39:					
Donnardo	Severe: large stones.	Severe: seepage, slope, large stones.	Severe: large stones.	Moderate: slope.	Poor: large stones.
Kapod	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, large stones.	Moderate: slope.	Poor: small stones.
40: Dune land.					
41:					
Erda	Severe: percs slowly.	Moderate: slope.	Slight	Slight	Good.
42:					
Escalante	Moderate: percs slowly.	Severe: seepage.	Slight	Slight	Good.
43:					
Escalante	Moderate: percs slowly.	Severe: seepage.	Slight	Slight	Good.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
44:					
Escalante	Moderate: slope.	Severe: seepage, slope.	Moderate: slope.	Moderate: slope.	Fair: slope.
Berent	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy.
Escalante	Slight	Severe: seepage.	Slight	Slight	Good.
45:					
Firmage	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Fair: small stones.
46:					
Firmage	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Fair: small stones.
Hiko Peak	Moderate: slope.	Severe: seepage, slope.	Moderate: slope.	Moderate: slope.	Poor: small stones.
47:					
Freedom	Severe: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
48:					
Freedom	Severe: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
49:					
Genola	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
50:					
Genola	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
51:					
Green River	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: wetness.
Poganeab	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
52:					
Heist	Slight	Severe: seepage.	Slight	Slight	Good.
53:					
Heist	Slight	Severe: seepage.	Slight	Slight	Good.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
54:					
Heist	Slight	Severe: seepage.	Slight	Slight	Good.
Berent	Severe: poor filter.	Severe: seepage, slope.	Severe: too sandy.	Moderate: slope.	Poor: too sandy.
55:					
Heist	Slight	Severe: seepage.	Slight	Slight	Good.
Linoyer	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
56:					
Hiko Peak	Severe: large stones.	Severe: seepage, slope, large stones.	Severe: large stones.	Moderate: slope.	Poor: small stones.
57:					
Hiko Peak	Slight	Severe: seepage.	Slight	Slight	Poor: small stones.
58:					
Hiko Peak	Moderate: slope.	Severe: seepage, slope.	Moderate: slope.	Moderate: slope.	Poor: small stones.
59:					
Hiko Peak	Severe: slope.	Severe: seepage, slope.	Severe: slope.	Severe: slope.	Poor: small stones, slope.
60:					
Hiko Peak	Moderate: slope.	Severe: seepage, slope.	Moderate: slope.	Moderate: slope.	Poor: small stones.
61:					
Hiko Peak	Severe: slope.	Severe: seepage, slope.	Severe: slope.	Severe: slope.	Poor: small stones, slope.
Amtoft	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope.	Poor: depth to rock, small stones, slope.
62:					
Hiko Peak	Moderate: slope.	Severe: seepage, slope.	Moderate: slope.	Moderate: slope.	Poor: small stones.
Heist	Slight	Severe: seepage.	Slight	Slight	Good.
63:					
Hiko Peak	Slight	Severe: seepage.	Slight	Slight	Poor: small stones.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
63:					
Heist	Slight	Severe: seepage.	Slight	Slight	Good.
64:					
Hiko Peak	Slight	Severe: seepage.	Slight	Slight	Poor: small stones.
Heist	Slight	Severe: seepage.	Slight	Slight	Good.
65:					
Hiko Peak	Moderate: slope.	Severe: seepage, slope.	Moderate: slope.	Moderate: slope.	Poor: small stones.
Pibler	Severe: cemented pan.	Severe: cemented pan, slope.	Severe: cemented pan.	Moderate: slope.	Poor: cemented pan, small stones.
66:					
Jardal	Severe: cemented pan.	Severe: seepage, cemented pan, slope.	Severe: cemented pan, seepage.	Severe: cemented pan, seepage.	Poor: cemented pan, seepage, small stones.
Donnardo	Moderate: percs slowly, slope, large stones.	Severe: seepage, slope.	Severe: large stones.	Moderate: slope.	Poor: large stones.
67:					
Jigsaw	Severe: percs slowly.	Moderate: slope.	Slight	Slight	Good.
68:					
Jigsaw	Severe: percs slowly.	Slight	Slight	Slight	Good.
Oakcity	Severe: percs slowly.	Slight	Severe: depth to rock.	Slight	Poor: hard to pack.
69:					
Kanosh	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness, excess salt.	Severe: wetness.	Fair: wetness.
70:					
Kapod	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, large stones.	Moderate: slope.	Poor: small stones.
71:					
Kapod	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, large stones.	Moderate: slope.	Poor: small stones.
Collard	Moderate: percs slowly, slope, large stones.	Severe: seepage, slope.	Moderate: slope, large stones.	Moderate: slope.	Poor: small stones.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
72: Kapod	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: small stones, slope.
Rock outcrop.					
73: Kessler	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
74: Kessler	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
75: Kessler	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
Linoyer	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
76: Kidman	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
Preston	Severe: poor filter, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
77: Kitchell	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope, large stones.	Severe: seepage, slope.	Poor: small stones, slope.
78: Kudlac	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
79: Larwood	Severe: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
Berent	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy.
80: Lava flows.					
Berent	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy.
81: Lava flows.					
Shotwell	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Slight.	Poor: depth to rock.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
82:					
Linoyer	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
83:					
Linoyer	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
84:					
Lizzant	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: small stones, slope.
85:					
Lodar	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, small stones, slope.
86:					
Lodar	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, small stones, slope.
Kidman	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
87:					
Lodar	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, small stones, slope.
Rock outcrop.					
88:					
Lonjon	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, small stones, slope.
89:					
Manassa	Severe: percs slowly.	Moderate: seepage.	Severe: excess salt.	Slight	Good.
90:					
Manassa	Severe: percs slowly.	Moderate: seepage.	Severe: excess salt.	Slight	Good.
Mellor	Severe: percs slowly.	Slight	Severe: excess salt.	Slight	Good.
91:					
Medburn	Slight	Severe: seepage.	Slight	Slight	Good.
Berent	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
91:					
Escalante	Moderate: percs slowly.	Severe: seepage.	Slight	Slight	Good.
92:					
Memmott	Severe: wetness, percs slowly.	Slight	Severe: wetness.	Severe: wetness.	Fair: too clayey, wetness.
93:					
Musinia	Severe: percs slowly.	Moderate: seepage.	Moderate: too clayey.	Slight	Fair: too clayey.
94:					
Musinia	Severe: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
95:					
Oakcity	Severe: percs slowly.	Slight	Severe: depth to rock.	Slight	Poor: hard to pack.
96:					
Oasis	Moderate: percs slowly.	Severe: seepage.	Slight	Slight	Fair: thin layer.
97:					
Pibler	Severe: cemented pan.	Severe: cemented pan, slope.	Severe: cemented pan.	Moderate: slope.	Poor: cemented pan, small stones.
98:					
Pibler	Severe: cemented pan.	Severe: cemented pan, slope.	Severe: cemented pan.	Moderate: slope.	Poor: cemented pan, small stones.
Pober	Severe: cemented pan.	Severe: cemented pan, slope, large stones.	Severe: cemented pan, large stones.	Moderate: slope.	Poor: cemented pan, large stones.
99:					
Pober	Severe: cemented pan.	Severe: cemented pan, slope, large stones.	Severe: cemented pan, large stones.	Moderate: slope.	Poor: cemented pan, large stones.
100:					
Pober	Severe: cemented pan, poor filter.	Severe: seepage, cemented pan.	Severe: cemented pan.	Slight	Poor: cemented pan, small stones.
Berent	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy.
101:					
Pober	Severe: cemented pan, poor filter.	Severe: seepage, cemented pan, slope.	Severe: cemented pan.	Moderate: slope.	Poor: cemented pan, small stones.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
101:					
Berent----------	Severe: poor filter, slope.	Severe: seepage, slope.	Severe: slope, too sandy.	Severe: slope.	Poor: too sandy, slope.
102:					
Preston---------	Severe: poor filter, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
103:					
Probert---------	Severe: percs slowly.	Moderate: seepage, slope.	Slight-----------	Slight-----------	Good.
104:					
Rock outcrop.					
Lodar-----------	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, small stones, slope.
105:					
Rock outcrop.					
Shotwell--------	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Moderate: slope.	Poor: depth to rock.
106:					
Rock outcrop.					
Soma------------	Severe: depth to rock, slope, large stones.	Severe: depth to rock, slope, large stones.	Severe: depth to rock, slope, large stones.	Severe: slope.	Poor: depth to rock, small stones, slope.
107:					
Searla----------	Severe: slope, large stones.	Severe: slope, large stones.	Severe: depth to rock, slope, large stones.	Severe: slope.	Poor: large stones, slope.
Kapod-----------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: small stones, slope.
108:					
Spager----------	Severe: cemented pan.	Severe: cemented pan, slope.	Severe: cemented pan.	Moderate: slope.	Poor: cemented pan, small stones.
109:					
Sterling--------	Slight-----------	Severe: seepage.	Severe: seepage.	Severe: seepage.	Poor: small stones.
110:					
Taylorsflat-----	Severe: percs slowly.	Moderate: seepage.	Slight-----------	Slight-----------	Good.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
111:					
Taylorsflat	Severe: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
112:					
Thiokol	Moderate: percs slowly.	Moderate: seepage, slope.	Severe: excess salt.	Slight	Good.
113:					
Timpie	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
114:					
Timpie	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
Uvada	Severe: percs slowly.	Slight	Slight	Slight	Good.
115:					
Tooele	Severe: poor filter.	Severe: seepage.	Moderate: too sandy.	Slight	Fair: too sandy.
116:					
Uffens	Moderate: percs slowly.	Moderate: seepage.	Slight	Slight	Good.
117:					
Uffens	Moderate: percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
118:					
Uvada	Severe: percs slowly.	Slight	Slight	Slight	Good.
119:					
Uvada	Severe: percs slowly.	Slight	Slight	Slight	Good.
Yenrab	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy.
120:					
Woodrow	Severe: percs slowly.	Slight	Slight	Slight	Good.
121:					
Yenrab	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy.
122:					
Yenrab	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy.
Puddle	Severe: percs slowly.	Moderate: seepage.	Slight	Slight	Good.

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
123:					
Yenrab	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Slight	Poor: too sandy.
Uvada	Severe: percs slowly.	Severe: seepage.	Severe: depth to rock, excess salt.	Slight	Good.

Table 15.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
1:				
Amtoft	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
2:				
Amtoft	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Spager	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan, small stones, slope.
3:				
Ashdown	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
4:				
Ashdown	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
5:				
Atepic	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
6:				
Atepic	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Sonlet	Poor: depth to rock, slope.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: depth to rock, small stones, slope.
7:				
Bandag	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
8:				
Bandag	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
9:				
Bandag	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
Berent	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
10:				
Beckstrand	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Benstot	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
11:				
Benstot	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Scipio	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
12:				
Bentaxle	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
Lodar	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
13:				
Bentaxle	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
Rock outcrop.				
14:				
Berent	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy, slope.
15:				
Berent	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
Oakcity	Poor: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Heist	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
16:				
Berent	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
Taylorsflat	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt.
Mellor	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt, excess sodium.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
17:				
Bonolden	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
18:				
Bonolden	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Erda	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
19:				
Borvant	Poor: cemented pan, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan, small stones, slope.
20:				
Borvant	Poor: cemented pan, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan, small stones, slope.
Jardal	Poor: cemented pan, slope.	Improbable: small stones.	Improbable: thin layer.	Poor: small stones, slope.
21:				
Borvant	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan, small stones.
Jardal	Poor: cemented pan.	Improbable: small stones.	Improbable: thin layer.	Poor: small stones.
22:				
Borvant	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan, small stones.
Pavant	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan.
23:				
Boxelder	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: excess salt.
24:				
Boxelder	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: excess salt.
25:				
Calita	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Erda	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
26:				
Calita	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Erda	Good	Improbable: excess fines.	Improbable: excess fines.	Good.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
27:				
Cessna----------	Good------------------	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
28:				
Checkett--------	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Amtoft----------	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
29:				
Church Springs--	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones.
30:				
Cloyd-----------	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones.
Rock outcrop.				
31:				
Collard---------	Fair: large stones.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
32:				
Curdli----------	Good------------------	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
33:				
Current Spring--	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.
34:				
Current Spring--	Fair: shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.
Maple Hollow----	Good------------------	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
35:				
Current Spring--	Fair: shrink-swell, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, small stones, area reclaim.
Maple Hollow----	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
36:				
Deseret	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt.
37:				
Donnardo	Poor: large stones.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: area reclaim, small stones.
38:				
Donnardo	Fair: large stones.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: large stones, area reclaim.
Borvant	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan, small stones.
Collard	Fair: large stones.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
39:				
Donnardo	Poor: large stones.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: area reclaim, small stones.
Kapod	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
40:				
Dune Land.				
41:				
Erda	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
42:				
Escalante	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
43:				
Escalante	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
44:				
Escalante	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Berent	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
Escalante	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, area reclaim.
45:				
Firmage	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
46:				
Firmage	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
Hiko Peak	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
47:				
Freedom	Fair: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
48:				
Freedom	Fair: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
49:				
Genola	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
50:				
Genola	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
51:				
Green River	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt.
Poganeab	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt, wetness.
52:				
Heist	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
53:				
Heist	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
54:				
Heist	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, area reclaim.
Berent	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
55:				
Heist	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, area reclaim.
Linoyer	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
56:				
Hiko Peak	Poor: large stones.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: small stones, area reclaim.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
57:				
Hiko Peak	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
58:				
Hiko Peak	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
59:				
Hiko Peak	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
60:				
Hiko Peak	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
61:				
Hiko Peak	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
Amtoft	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
62:				
Hiko Peak	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
Heist	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, area reclaim.
63:				
Hiko Peak	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
Heist	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
64:				
Hiko Peak	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
Heist	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
65:				
Hiko Peak	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
65:				
Pibler	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan, small stones.
66:				
Jardal	Poor: cemented pan.	Improbable: small stones.	Improbable: thin layer.	Poor: small stones.
Donnardo	Fair: large stones.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: large stones, area reclaim.
67:				
Jigsaw	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
68:				
Jigsaw	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
Oakcity	Poor: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
69:				
Kanosh	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt.
70:				
Kapod	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
71:				
Kapod	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
Collard	Fair: large stones.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
72:				
Kapod	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
Rock outcrop.				
73:				
Kessler	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
74:				
Kessler	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
75:				
Kessler	Good	Improbable: excess fines.	Improbable: excess fines.	Good.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
75:				
Linoyer	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
76:				
Kidman	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
Preston	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
77:				
Kitchell	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
78:				
Kudlac	Poor: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
79:				
Larwood	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
Berent	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
80:				
Lava flows.				
Berent	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
81:				
Lava flows.				
Shotwell	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, large stones.
82:				
Linoyer	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
83:				
Linoyer	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
84:				
Lizzant	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
85:				
Lodar	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
86:				
Lodar	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Kidman	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
87:				
Lodar	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
88:				
Lonjon	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
89:				
Manassa	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt.
90:				
Manassa	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt.
Mellor	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt, excess sodium.
91:				
Medburn	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, thin layer.
Berent	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
Escalante	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
92:				
Memmott	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
93:				
Musinia	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
94:				
Musinia	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
95:				
Oakcity	Poor: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
96:				
Oasis	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
97:				
Pibler	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan, small stones.
98:				
Pibler	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan, small stones.
Pober	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
99:				
Pober	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
100:				
Pober	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Berent	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
101:				
Pober	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Berent	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy, slope.
102:				
Preston	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
103:				
Probert	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
104:				
Rock outcrop.				
Lodar	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
105:				
Rock outcrop.				
Shotwell	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, large stones.
106:				
Rock outcrop.				

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
106:				
Soma	Poor: depth to rock, large stones, slope.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: depth to rock, small stones, slope.
107:				
Searla	Poor: large stones.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: area reclaim, small stones, slope.
Kapod	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
108:				
Spager	Poor: cemented pan.	Improbable: excess fines.	Improbable: excess fines.	Poor: cemented pan, small stones.
109:				
Sterling	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
110:				
Taylorsflat	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
111:				
Taylorsflat	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
112:				
Thiokol	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: excess salt, thin layer.
113:				
Timpie	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt.
114:				
Timpie	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt.
Uvada	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, excess salt, excess sodium.
115:				
Tooele	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: excess salt.
116:				
Uffens	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt, excess sodium.

Table 15.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
117:				
Uffens	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt, excess sodium.
118:				
Uvada	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt, excess sodium.
119:				
Uvada	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess salt, excess sodium.
Yenrab	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
120:				
Woodrow	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
121:				
Yenrab	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
122:				
Yenrab	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
Puddle	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, excess salt.
123:				
Yenrab	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
Uvada	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, excess salt, excess sodium.

Table 16.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
1:						
Amtoft	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, depth to rock.	Slope, large stones, depth to rock.	Too arid, large stones, slope.
Rock outcrop.						
2:						
Amtoft	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, depth to rock.	Slope, large stones, depth to rock.	Too arid, large stones, slope.
Spager	Severe: cemented pan, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, cemented pan.	Slope, large stones, cemented pan.	Too arid, large stones, slope.
3:						
Ashdown	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
4:						
Ashdown	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope, erodes easily.	Erodes easily.	Too arid, erodes easily.
5:						
Atepic	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Rock outcrop.						
6:						
Atepic	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Sonlet	Severe: depth to rock, slope.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
7:						
Bandag	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
8:						
Bandag	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope, erodes easily.	Erodes easily.	Too arid, erodes easily.
9:						
Bandag	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
Berent	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Too sandy, soil blowing.	Too arid, droughty.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
10:						
Beckstrand------	Moderate: seepage.	Severe: piping.	Moderate: deep to water, slow refill.	Wetness, erodes easily.	Erodes easily, wetness.	Erodes easily.
Benstot---------	Moderate: seepage.	Severe: piping.	Moderate: deep to water, slow refill.	Wetness, erodes easily.	Erodes easily, wetness.	Erodes easily.
11:						
Benstot---------	Moderate: seepage.	Severe: piping.	Moderate: deep to water, slow refill.	Wetness, erodes easily.	Erodes easily, wetness.	Erodes easily.
Scipio----------	Severe: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Wetness, erodes easily.	Erodes easily, wetness.	Wetness, erodes easily.
12:						
Bentaxle--------	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Large stones, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Lodar-----------	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
13:						
Bentaxle--------	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Large stones, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Rock outcrop.						
14:						
Berent----------	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Slope, too sandy, soil blowing.	Too arid, slope, droughty.
15:						
Berent----------	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Slope, too sandy, soil blowing.	Too arid, slope, droughty.
Oakcity---------	Slight---------	Moderate: hard to pack.	Severe: no water.	Percs slowly, excess salt.	Erodes easily, percs slowly.	Too arid, erodes easily, percs slowly.
Heist-----------	Severe: seepage.	Moderate: seepage, piping.	Severe: no water.	Soil blowing.	Soil blowing.	Too arid.
16:						
Berent----------	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Slope, too sandy, soil blowing.	Too arid, slope, droughty.
Taylorsflat-----	Moderate: seepage.	Severe: piping.	Severe: no water.	Excess salt.	Favorable------	Too arid.
Mellor----------	Slight---------	Severe: excess sodium, excess salt.	Severe: no water.	Droughty, percs slowly, erodes easily.	Erodes easily, percs slowly.	Too arid, excess salt, excess sodium.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
17:						
Bonolden	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Erodes easily.
18:						
Bonolden	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Erodes easily.
Erda	Slight	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
19:						
Borvant	Severe: cemented pan, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, cemented pan.	Slope, large stones, cemented pan.	Large stones, slope, droughty.
20:						
Borvant	Severe: cemented pan, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, cemented pan.	Slope, large stones, cemented pan.	Large stones, slope, droughty.
Jardal	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Slope, droughty, cemented pan.	Slope, cemented pan.	Slope, droughty, cemented pan.
21:						
Borvant	Severe: cemented pan, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, cemented pan.	Slope, large stones, cemented pan.	Large stones, slope, droughty.
Jardal	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Slope, droughty, cemented pan.	Slope, cemented pan.	Slope, droughty, cemented pan.
22:						
Borvant	Severe: cemented pan, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, cemented pan.	Slope, large stones, cemented pan.	Large stones, slope, droughty.
Pavant	Severe: cemented pan, slope.	Severe: piping.	Severe: no water.	Slope, cemented pan, erodes easily.	Slope, cemented pan, erodes easily.	Slope, erodes easily, cemented pan.
23:						
Boxelder	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily, excess salt.	Erodes easily.	Too arid, erodes easily.
24:						
Boxelder	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope, erodes easily, excess salt.	Erodes easily.	Too arid, erodes easily.
25:						
Calita	Moderate: seepage.	Severe: piping.	Severe: no water.	Soil blowing, erodes easily.	Erodes easily, soil blowing.	Too arid, erodes easily.
Erda	Slight	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
26:						
Calita	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope, soil blowing, erodes easily.	Erodes easily, soil blowing.	Too arid, erodes easily.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
26:						
Erda	Moderate: slope.	Severe: piping.	Severe: no water.	Slope, erodes easily.	Erodes easily.	Too arid, erodes easily.
27:						
Cessna	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Erodes easily.
28:						
Checkett	Severe: depth to rock, slope.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Too arid, large stones, slope.
Amtoft	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, depth to rock.	Slope, large stones, depth to rock.	Too arid, large stones, slope.
29:						
Church Springs	Moderate: slope.	Moderate: piping.	Severe: no water.	Slope, erodes easily.	Erodes easily.	Erodes easily.
30:						
Cloyd	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, depth to rock.	Slope, depth to rock.	Too arid, slope, depth to rock.
Rock outcrop.						
31:						
Collard	Severe: seepage.	Severe: seepage.	Severe: no water.	Slope, large stones, droughty.	Large stones, too sandy.	Too arid, large stones, droughty.
32:						
Curdli	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily, excess salt.	Erodes easily.	Too arid, erodes easily.
33:						
Current Spring	Severe: slope.	Moderate: large stones.	Severe: no water.	Slope, droughty, percs slowly.	Slope, large stones, percs slowly.	Large stones, slope, droughty.
34:						
Current Spring	Severe: slope.	Moderate: large stones.	Severe: no water.	Slope, droughty, percs slowly.	Slope, large stones, percs slowly.	Large stones, slope, droughty.
Maple Hollow	Severe: slope.	Moderate: thin layer.	Severe: no water.	Slope, percs slowly.	Slope, percs slowly.	Slope, percs slowly.
35:						
Current Spring	Severe: slope.	Moderate: large stones.	Severe: no water.	Slope, droughty, percs slowly.	Slope, large stones, percs slowly.	Large stones, slope, droughty.
Maple Hollow	Severe: slope.	Moderate: thin layer.	Severe: no water.	Slope, percs slowly.	Slope, percs slowly.	Slope, percs slowly.
36:						
Deseret	Slight	Moderate: piping, excess salt.	Severe: no water.	Droughty, erodes easily, excess salt.	Erodes easily.	Too arid, excess salt, erodes easily.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
37: Donnardo--------	Severe: seepage, slope.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones.	Too arid, large stones, slope.
38: Donnardo--------	Severe: seepage.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Large stones.	Too arid, large stones.
Borvant---------	Severe: cemented pan.	Severe: thin layer.	Severe: no water.	Slope, droughty, cemented pan.	Large stones, cemented pan.	Large stones, droughty.
Collard---------	Severe: seepage.	Severe: seepage.	Severe: no water.	Slope, large stones, droughty.	Large stones, too sandy.	Too arid, large stones, droughty.
39: Donnardo--------	Severe: seepage, slope.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones.	Too arid, large stones, slope.
Kapod-----------	Severe: slope.	Moderate: large stones.	Severe: no water.	Slope, droughty.	Slope, large stones.	Large stones, slope, droughty.
40: Dune land.						
41: Erda------------	Moderate: slope.	Severe: piping.	Severe: no water.	Slope, erodes easily.	Erodes easily.	Too arid, erodes easily.
42: Escalante-------	Severe: seepage.	Severe: piping.	Severe: no water.	Droughty, soil blowing.	Soil blowing.	Too arid, droughty.
43: Escalante-------	Severe: seepage.	Severe: piping.	Severe: no water.	Slope, droughty, soil blowing.	Soil blowing.	Too arid, droughty.
44: Escalante-------	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Slope, droughty.	Slope----------	Too arid, slope, droughty.
Berent----------	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Too sandy, soil blowing.	Too arid, droughty.
Escalante-------	Severe: seepage.	Severe: piping.	Severe: no water.	Slope, soil blowing.	Soil blowing.	Too arid.
45: Firmage---------	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope----------	Favorable------	Too arid.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
46: Firmage	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope	Favorable	Too arid.
Hiko Peak	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Slope, droughty.	Slope, large stones.	Too arid, large stones, slope.
47: Freedom	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
48: Freedom	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope, erodes easily.	Erodes easily.	Too arid, erodes easily.
49: Genola	Moderate: seepage.	Moderate: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
50: Genola	Moderate: seepage, slope.	Moderate: piping.	Severe: no water.	Slope, erodes easily.	Erodes easily.	Too arid, erodes easily.
51: Green River	Moderate: seepage.	Moderate: seepage, piping, wetness.	Moderate: deep to water, slow refill, salty water.	Flooding, excess salt.	Favorable	Too arid.
Poganeab	Moderate: seepage.	Severe: wetness.	Severe: slow refill.	Wetness, percs slowly, flooding.	Wetness, percs slowly.	Wetness, percs slowly.
52: Heist	Severe: seepage.	Moderate: seepage, piping.	Severe: no water.	Soil blowing.	Soil blowing.	Too arid.
53: Heist	Severe: seepage.	Moderate: seepage, piping.	Severe: no water.	Slope, soil blowing.	Soil blowing.	Too arid.
54: Heist	Severe: seepage.	Slight	Severe: no water.	Slope, droughty, soil blowing.	Soil blowing.	Too arid, droughty.
Berent	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Slope, too sandy, soil blowing.	Too arid, slope, droughty.
55: Heist	Severe: seepage.	Slight	Severe: no water.	Slope, droughty, soil blowing.	Soil blowing.	Too arid, droughty.
Linoyer	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
56: Hiko Peak	Severe: seepage, slope.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones.	Too arid, large stones, slope.
57: Hiko Peak	Severe: seepage.	Moderate: thin layer, seepage.	Severe: no water.	Slope, droughty, soil blowing.	Soil blowing.	Too arid, droughty.
58: Hiko Peak	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Slope, droughty.	Slope	Too arid, slope, droughty.
59: Hiko Peak	Severe: seepage, slope.	Moderate: seepage, large stones.	Severe: no water.	Slope, droughty.	Slope, large stones.	Too arid, large stones, slope.
60: Hiko Peak	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Slope, droughty.	Slope, large stones.	Too arid, large stones, slope.
61: Hiko Peak	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Slope, droughty.	Slope, large stones.	Too arid, large stones, slope.
Amtoft	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, depth to rock.	Slope, large stones, depth to rock.	Too arid, large stones, slope.
62: Hiko Peak	Severe: seepage, slope.	Moderate: seepage, large stones.	Severe: no water.	Slope, droughty.	Slope, large stones.	Too arid, large stones, slope.
Heist	Severe: seepage.	Severe: piping.	Severe: no water.	Slope, soil blowing.	Soil blowing.	Too arid.
63: Hiko Peak	Severe: seepage.	Moderate: thin layer, seepage.	Severe: no water.	Droughty, soil blowing.	Soil blowing.	Too arid, droughty.
Heist	Severe: seepage.	Moderate: seepage, piping.	Severe: no water.	Soil blowing.	Soil blowing.	Too arid.
64: Hiko Peak	Severe: seepage.	Moderate: thin layer, seepage.	Severe: no water.	Slope, droughty, soil blowing.	Soil blowing.	Too arid, droughty.
Heist	Severe: seepage.	Moderate: seepage, piping.	Severe: no water.	Slope, soil blowing.	Soil blowing.	Too arid.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Irrigation	Terraces and diversions	Grassed waterways
65:						
Hiko Peak	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Slope, droughty.	Slope	Too arid, slope, droughty.
Pibler	Severe: cemented pan, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, soil blowing.	Slope, cemented pan, soil blowing.	Too arid, slope, droughty.
66:						
Jardal	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Slope, droughty, cemented pan.	Slope, cemented pan.	Slope, droughty, cemented pan.
Donnardo	Severe: seepage, slope.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones.	Too arid, large stones, slope.
67:						
Jigsaw	Moderate: slope.	Moderate: piping.	Severe: no water.	Slope, percs slowly, erodes easily.	Erodes easily, percs slowly.	Too arid, erodes easily, percs slowly.
68:						
Jigsaw	Slight	Moderate: piping.	Severe: no water.	Percs slowly, erodes easily.	Erodes easily, percs slowly.	Too arid, erodes easily, percs slowly.
Oakcity	Slight	Moderate: hard to pack.	Severe: no water.	Percs slowly, excess salt.	Erodes easily, percs slowly.	Too arid, erodes easily, percs slowly.
69:						
Kanosh	Severe: seepage.	Severe: wetness, excess salt.	Severe: salty water.	Wetness, droughty, soil blowing.	Erodes easily, wetness, soil blowing.	Too arid, excess salt, erodes easily.
70:						
Kapod	Severe: slope.	Moderate: large stones.	Severe: no water.	Slope, droughty.	Slope, large stones.	Large stones, slope, droughty.
71:						
Kapod	Severe: slope.	Moderate: large stones.	Severe: no water.	Slope, droughty.	Slope, large stones.	Large stones, slope, droughty.
Collard	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones.	Too arid, large stones, slope.
72:						
Kapod	Severe: slope.	Moderate: large stones.	Severe: no water.	Slope, droughty.	Slope, large stones.	Large stones, slope, droughty.
Rock outcrop.						
73:						
Kessler	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Irrigation	Terraces and diversions	Grassed waterways
74:						
Kessler	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope, erodes easily.	Erodes easily.	Too arid, erodes easily.
75:						
Kessler	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
Linoyer	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
76:						
Kidman	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Slope, soil blowing.	Slope, erodes easily, soil blowing.	Slope, erodes easily.
Preston	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Slope, droughty, fast intake.	Slope, soil blowing.	Slope, droughty.
77:						
Kitchell	Severe: seepage, slope.	Moderate: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones.	Large stones, slope, droughty.
78:						
Kudlac	Severe: slope.	Moderate: piping.	Severe: no water.	Slope, percs slowly, erodes easily.	Slope, erodes easily, percs slowly.	Too arid, slope, erodes easily.
79:						
Larwood	Moderate: seepage.	Severe: thin layer.	Severe: no water.	Soil blowing, percs slowly.	Erodes easily, soil blowing, percs slowly.	Too arid, erodes easily, percs slowly.
Berent	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Too sandy, soil blowing.	Too arid, droughty.
80:						
Lava flows.						
Berent	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Too sandy, soil blowing.	Too arid, droughty.
81:						
Lava flows.						
Shotwell	Severe: depth to rock.	Severe: piping.	Severe: no water.	Slope, large stones, droughty.	Large stones, depth to rock.	Too arid, large stones.
82:						
Linoyer	Moderate: seepage.	Severe: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
83:						
Linoyer	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope, soil blowing, erodes easily.	Erodes easily, soil blowing.	Too arid, erodes easily.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
84: Lizzant	Severe: seepage, slope.	Moderate: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones.	Large stones, slope, droughty.
85: Lodar	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
86: Lodar	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Kidman	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Slope, soil blowing.	Slope, erodes easily, soil blowing.	Slope, erodes easily.
87: Lodar	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Rock outcrop.						
88: Lonjon	Severe: slope.	Moderate: thin layer, large stones.	Severe: no water.	Slope, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
89: Manassa	Moderate: seepage.	Severe: excess salt.	Severe: no water.	Droughty, percs slowly, erodes easily.	Erodes easily, percs slowly.	Too arid, excess salt, erodes easily.
90: Manassa	Moderate: seepage.	Severe: excess salt.	Severe: no water.	Droughty, percs slowly, erodes easily.	Erodes easily, percs slowly.	Too arid, excess salt, erodes easily.
Mellor	Slight	Severe: excess sodium, excess salt.	Severe: no water.	Droughty, percs slowly, erodes easily.	Erodes easily, percs slowly.	Too arid, excess salt, excess sodium.
91: Medburn	Severe: seepage.	Severe: piping.	Severe: no water.	Droughty, soil blowing, excess salt.	Soil blowing.	Too arid, droughty.
Berent	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Too sandy, soil blowing.	Too arid, droughty.
Escalante	Severe: seepage.	Severe: piping.	Severe: no water.	Droughty, soil blowing.	Soil blowing.	Too arid, droughty.
92: Mermott	Slight	Moderate: wetness.	Severe: slow refill.	Wetness, percs slowly, erodes easily.	Erodes easily, wetness, percs slowly.	Too arid, erodes easily, percs slowly.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
93: Musinia	Moderate: seepage.	Moderate: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
94: Musinia	Moderate: seepage, slope.	Moderate: piping.	Severe: no water.	Slope, erodes easily.	Erodes easily.	Too arid, erodes easily.
95: Oakcity	Slight	Moderate: hard to pack.	Severe: no water.	Percs slowly, excess salt.	Erodes easily, percs slowly.	Too arid, erodes easily, percs slowly.
96: Oasis	Severe: seepage.	Severe: piping.	Severe: no water.	Soil blowing.	Erodes easily, soil blowing.	Too arid, erodes easily.
97: Pibler	Severe: cemented pan, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, soil blowing.	Slope, cemented pan, soil blowing.	Too arid, slope, droughty.
98: Pibler	Severe: cemented pan, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, soil blowing.	Slope, cemented pan, soil blowing.	Too arid, slope, droughty.
Pober	Severe: slope.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, cemented pan.	Too arid, large stones, slope.
99: Pober	Severe: slope.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, cemented pan.	Too arid, large stones, slope.
100: Pober	Severe: seepage.	Severe: seepage.	Severe: no water.	Slope, large stones, droughty.	Large stones, cemented pan.	Too arid, large stones.
Berent	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Too sandy, soil blowing.	Too arid, droughty.
101: Pober	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, cemented pan.	Too arid, large stones, slope.
Berent	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Slope, too sandy, soil blowing.	Too arid, slope, droughty.
102: Preston	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Slope, droughty, fast intake.	Slope, soil blowing.	Slope, droughty.
103: Probert	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope	Favorable	Favorable.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
104:						
Rock outcrop.						
Lodar	Severe: depth to rock, slope.	Severe: thin layer.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
105:						
Rock outcrop.						
Shotwell	Severe: depth to rock, slope.	Severe: piping.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Too arid, large stones, slope.
106:						
Rock outcrop.						
Soma	Severe: depth to rock, slope.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Too arid, large stones, slope.
107:						
Searla	Severe: slope.	Severe: large stones.	Severe: no water.	Slope, large stones, droughty.	Slope, large stones.	Large stones, slope, droughty.
Kapod	Severe: slope.	Moderate: large stones.	Severe: no water.	Slope, droughty.	Slope, large stones.	Large stones, slope, droughty.
108:						
Spager	Severe: cemented pan, slope.	Severe: thin layer.	Severe: no water.	Slope, droughty, cemented pan.	Slope, large stones, cemented pan.	Too arid, large stones, slope.
109:						
Sterling	Severe: seepage.	Moderate: large stones.	Severe: no water.	Slope	Large stones.	Large stones.
110:						
Taylorsflat	Slight	Moderate: piping.	Severe: no water.	Erodes easily.	Erodes easily.	Too arid, erodes easily.
111:						
Taylorsflat	Moderate: slope.	Moderate: piping.	Severe: no water.	Slope, erodes easily.	Erodes easily.	Too arid, erodes easily.
112:						
Thiokol	Moderate: seepage.	Severe: piping, excess salt.	Severe: no water.	Erodes easily, excess salt.	Erodes easily.	Too arid, erodes easily.
113:						
Timpie	Moderate: seepage.	Severe: piping.	Severe: no water.	Soil blowing, excess salt.	Erodes easily, soil blowing.	Too arid, erodes easily.
114:						
Timpie	Moderate: seepage.	Severe: piping.	Severe: no water.	Soil blowing, excess salt.	Erodes easily, soil blowing.	Too arid, erodes easily.
Uvada	Slight	Severe: excess sodium.	Severe: no water.	Percs slowly, erodes easily, excess sodium.	Erodes easily.	Too arid, excess sodium, erodes easily.

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Irrigation	Terraces and diversions	Grassed waterways
115: Tooele	Severe: seepage.	Severe: piping.	Severe: no water.	Droughty, fast intake, soil blowing.	Soil blowing.	Too arid, droughty.
116: Uffens	Moderate: seepage.	Severe: excess sodium.	Severe: no water.	Droughty, fast intake, soil blowing.	Erodes easily, soil blowing.	Too arid, excess sodium, erodes easily.
117: Uffens	Moderate: seepage, slope.	Severe: excess sodium.	Severe: no water.	Slope, droughty, erodes easily.	Erodes easily.	Too arid, excess sodium, erodes easily.
118: Uvada	Slight	Severe: excess sodium.	Severe: no water.	Percs slowly, erodes easily, excess sodium.	Erodes easily.	Too arid, excess sodium, erodes easily.
119: Uvada	Slight	Severe: excess sodium.	Severe: no water.	Percs slowly, erodes easily, excess sodium.	Erodes easily.	Too arid, excess sodium, erodes easily.
Yenrab	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Too sandy, soil blowing.	Too arid, excess salt.
120: Woodrow	Slight	Moderate: piping.	Severe: no water.	Percs slowly, erodes easily.	Erodes easily, percs slowly.	Too arid, erodes easily, percs slowly.
121: Yenrab	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Too sandy, soil blowing.	Too arid, excess salt.
122: Yenrab	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Too sandy, soil blowing.	Too arid, excess salt.
Puddle	Moderate: seepage.	Severe: piping.	Severe: no water.	Soil blowing, excess salt.	Soil blowing.	Too arid.
123: Yenrab	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, droughty, fast intake.	Too sandy, soil blowing.	Too arid, excess salt.
Uvada	Severe: seepage.	Severe: excess sodium, excess salt.	Severe: no water.	Droughty, soil blowing, percs slowly.	Erodes easily, soil blowing.	Too arid, excess sodium, erodes easily.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features listed in tables are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given. The estimates of soil properties shown in the tables are based on the typical soil profile listed in each mapping unit description. The soil properties at any given site may vary somewhat from the values given in the table.

Engineering Index Properties

Table 17 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given in the section "Soil Series and Their Morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the "Glossary."

Classification of the soils is determined according to the system adopted by the American Association of State Highway and Transportation Officials *(1)* and the Unified soil classification system *(2)*.

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical and Chemical Properties

Tables 18 and 19 show estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given in the section "Soil Series and Their Morphology."

Clay as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. The estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth-moving operations.

In table 18, *moist bulk density* is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In table 18, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, more than 9 percent, is sometimes used.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 18, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, very fine sand, sand, and organic matter (as much as 4 percent) and on soil structure and permeability. The estimates are modified by the presence of rock fragments. Values of K range from 0.02 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their resistance to soil blowing in cultivated areas. The groups indicate the susceptibility of soil to soil blowing. Soils are grouped according to the following distinctions:

1. Coarse sands, sands, fine sands, and very fine sands. These soils generally are not suitable for crops. They are extremely erodible, and vegetation is difficult to establish.

2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, and sapric soil material. These soils are very highly erodible. Crops can be grown if intensive measures to control soil blowing are used.

3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams. These soils are highly erodible. Crops can be grown if intensive measures to control soil blowing are used.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams that have more than 5 percent finely divided calcium carbonate. These soils are highly erodible. Crops can be grown if intensive measures to control soil blowing are used.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay. These soils are moderately erodible. Crops can be grown if measures to control soil blowing are used.

5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material. These soils have less than 5 percent finely divided calcium carbonate. These soils are moderately erodible. Crops can be grown if measures to control soil blowing are used.

6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay. These soils have less than 5 percent finely divided calcium carbonate. These soils are moderately erodible. Crops can be grown if ordinary measures to control soil blowing are used.

7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material. These soils have less than 5 percent finely divided calcium carbonate. These soils are very slightly erodible. Crops can be grown if ordinary measures to control soil blowing are used.

8. Soils that are not subject to soil blowing because of rock fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to soil blowing, or the tons per acre per year that can be expected to be lost to soil blowing. There is a close correlation between soil blowing and the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence soil blowing.

In table 19, *cation-exchange capacity* is the total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. Soils having a high cation-exchange capacity can retain cations. The ability to retain cations helps to prevent the pollution of ground water.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is given as the percent, by weight, of hydrated calcium sulfates in the soil. Gypsum is partially soluble in water and can be dissolved and removed by water. Soils that have a high content of gypsum (more than 10 percent) may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of the soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio is the measure of sodium relative to calcium and magnesium in the water extract from saturated soil paste. Soils having a sodium adsorption ratio of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Water Features

Table 20 gives estimates of several important water features used in land use planning that involves engineering considerations. These features are described in the following paragraphs.

Hydrologic soil groups are groups of soils that, when saturated, have the same runoff potential under similar storm and ground cover conditions. The soil properties that affect the runoff potential are those that influence the minimum rate of infiltration in a bare soil after prolonged wetting and when the soil is not frozen. These properties include the depth to a seasonal high water table, the intake rate, permeability after prolonged wetting, and the depth to a very slowly permeable layer. The influences of ground cover and slope are treated independently and are not taken into account in hydrologic soil groups.

In the definitions of the hydrologic soil groups, the infiltration rate is the rate at which water enters the soil at the surface and is controlled by surface conditions. The transmission rate is the rate at which water moves through the soil and is controlled by properties of the soil layers.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist chiefly of very deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well or well drained soils that have a moderately fine to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils that have a moderately fine or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clayey soils that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Flooding, the temporary covering of the soil surface by flowing water, is caused by overflow from streams or by runoff from adjacent slopes. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in marshes and swamps or in closed depressions is considered to be ponding.

The table gives the frequency and duration of flooding and the time of year when flooding is most likely to occur. Frequency, duration, and probable dates of occurrence are estimated. Frequency generally is expressed as none, rare, occasional, or frequent. *None* means flooding is not probable; *rare* that it is unlikely but is possible under unusual weather conditions (the chance of flooding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); and *frequent* that it occurs often under normal weather conditions (the chance of flooding is 50 percent in any year). The term *common* includes both frequent and occasional flooding.

Duration is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 to 30 days), and *very long* (more than 30 days). The time of year that flooding is most likely to occur is expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and level of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is a zone of saturation at the highest average depth during the wettest season. It is at least 6 inches thick, persists in the soil for more than a few weeks, and is within 6 feet of the surface. Indicated in the table are the depth to the seasonal high water table, the kind of water table, and the months of the year when the water table usually is highest.

Two numbers in the column showing depth to the water table indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. "More than 6.0" indicates that the water table is below a depth of 6 feet or that it is within a depth of 6 feet for less than a month.

An *apparent* water table is indicated by the level at which water stands in a freshly dug, unlined borehole after adequate time for adjustments in the surrounding soil. A *perched* water table is one that is above an unsaturated zone in the soil. The basis for determining that a water table is perched may be general knowledge of the area. The water table is proven to be perched if the water level in a borehole is observed to fall when the borehole is extended.

Soil Features

Table 21 gives estimates of several important soil features used in land use planning that involves engineering considerations. These features are described in the following paragraphs.

Depth to bedrock is given if bedrock is within a depth of 60 inches. The depth is based on many soil borings and on observations during soil mapping. The rock is specified as either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

A *cemented pan* is a nearly continuous layer of indurated or strongly cemented material that is hard and brittle. The particles are held together by cementing substances, such as calcium carbonate and oxides of silicon, iron, or aluminum. Pans are identified when they are within a depth of 60 inches. They are classified as thin or thick. A *thin* pan can be excavated by trenching machines, backhoes, small rippers, and other equipment commonly used to dig excavations for pipelines, sewer lines, and graves. A *thick* pan is so thick or massive that blasting or special equipment is needed when excavations are made.

Potential frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage mainly to pavements and other rigid structures.

A *low* potential for frost action indicates that the soil is rarely susceptible to the formation of ice lenses; a *moderate* potential indicates that the soil is susceptible to formation of ice lenses, resulting in frost heave and the subsequent loss of soil strength; and a *high* potential indicates that the soil is highly susceptible to formation of ice lenses, resulting in frost heave and the subsequent loss of soil strength.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil.

Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Table 17.--Engineering Index Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1: Amtoft----------	0-8	Gravelly loam--	CL-ML, CL	A-4, A-6	0	0	80-85	75-80	67-75	50-60	25-35	5-15
	8-19	Very cobbly loam.	GC, GM-GC	A-4, A-6	0	30-40	45-55	40-50	40-45	35-45	25-35	5-15
	19	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
Rock outcrop.												
2: Amtoft----------	0-8	Gravelly loam--	CL-ML, CL	A-4, A-6	0	0	80-85	75-80	67-75	50-60	25-35	5-15
	8-19	Very cobbly loam.	GC, GM-GC	A-4, A-6	0	30-40	45-55	40-50	40-45	35-45	25-35	5-15
	19	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
Spager----------	0-2	Gravelly very fine sandy loam.	SC-SM, GM-GC	A-2	0	5-10	60-70	55-65	45-50	20-35	20-25	5-10
	2-5	Very gravelly very fine sandy loam.	GM-GC	A-1, A-2	0	5-20	50-55	45-50	35-45	20-30	20-25	5-10
	5-11	Very gravelly very fine sandy loam.	GM-GC	A-1, A-2	0	5-20	50-60	45-55	40-50	20-35	20-25	5-10
	11	Indurated.	---	---	0	0	0	0	0	0	---	NP
3: Ashdown---------	0-20	Loam-----------	CL-ML, CL	A-4, A-6	0	0	100	100	85-95	60-75	25-30	5-10
	20-60	Loam-----------	CL-ML, CL	A-4, A-6	0	0	100	100	85-95	60-75	25-30	5-10
4: Ashdown---------	0-20	Loam-----------	CL-ML, CL	A-4, A-6	0	0	100	100	85-95	60-75	25-30	5-10
	20-60	Loam-----------	CL-ML, CL	A-4, A-6	0	0	100	100	85-95	60-75	25-30	5-10
5: Atepic----------	0-2	Very stony clay loam.	CL, GC	A-6	30-35	25-35	45-55	40-50	40-50	40-60	30-35	10-15
	2-10	Flaggy clay loam.	GC, CL	A-6	5-10	10-30	65-80	60-75	55-70	40-55	25-35	10-15
	10-18	Flaggy clay loam.	CL	A-6	0-5	10-20	80-90	75-85	70-80	50-65	30-45	10-15
	18-25	Weathered bedrock.	---	---	0	0	0	0	0	0	---	NP
Rock outcrop.												
6: Atepic----------	0-2	Very stony clay loam.	CL, GC	A-6	30-35	25-35	45-55	40-50	40-50	40-60	30-35	10-15
	2-10	Flaggy clay loam.	GC, CL	A-6	5-10	10-30	65-80	60-75	55-70	40-55	25-35	10-15
	10-18	Flaggy clay loam.	CL	A-6	0-5	10-20	80-90	75-85	70-80	50-65	30-45	10-15
	18-25	Weathered bedrock.	---	---	0	0	0	0	0	0	---	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
6: Sonlet----------	0-4	Extremely stony loam.	GM-GC	A-4, A-2	25-40	20-35	45-60	40-55	35-50	25-45	20-30	5-10
	4-10	Very cobbly loam.	GM-GC	A-2, A-4	0	10-40	50-55	45-50	40-50	30-40	20-30	5-10
	10-19	Extremely cobbly loam.	GM-GC	A-2, A-4	0	30-60	40-60	35-55	30-50	25-35	25-30	5-10
	19	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
7: Bandag----------	0-7	Loam-----------	CL-ML	A-4	0	0	100	100	80-90	60-75	20-30	5-10
	7-60	Loam-----------	CL-ML	A-4	0	0	100	100	80-90	60-75	20-30	5-10
8: Bandag----------	0-7	Loam-----------	CL-ML	A-4	0	0	100	100	80-90	60-75	20-30	5-10
	7-60	Loam-----------	CL-ML	A-4	0	0	100	100	80-90	60-75	20-30	5-10
9: Bandag----------	0-7	Loam-----------	CL-ML	A-4	0	0	100	100	80-90	60-75	20-30	5-10
	7-60	Loam-----------	CL-ML	A-4	0	0	100	100	80-90	60-75	20-30	5-10
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP
10: Beckstrand------	0-8	Loam-----------	CL-ML	A-4	0	0	95-100	90-100	75-90	55-75	25-30	5-10
	8-17	Loam-----------	CL-ML	A-4	0	0	95-100	90-100	75-90	55-75	25-30	5-10
	17-34	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	90-100	85-95	65-85	35-55	20-30	5-10
	34-60	Loam-----------	CL-ML	A-4	0	0	95-100	90-100	75-90	55-75	25-30	5-10
Benstot---------	0-8	Loam-----------	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	75-95	55-75	25-35	5-15
	8-16	Silt loam------	CL-ML, CL	A-4, A-6	0	0	100	95-100	90-100	80-90	25-35	5-15
	16-32	Silt loam------	CL-ML, CL	A-4, A-6	0	0	100	95-100	90-100	70-90	25-35	5-15
	32-60	Silt loam------	CL-ML, CL	A-4, A-6	0	0	100	95-100	90-100	70-90	25-35	5-15
11: Benstot---------	0-8	Loam-----------	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	75-95	55-75	25-35	5-15
	8-16	Silt loam------	CL-ML, CL	A-4, A-6	0	0	100	95-100	90-100	80-90	25-35	5-15
	16-32	Silt loam------	CL-ML, CL	A-4, A-6	0	0	100	95-100	90-100	70-90	25-35	5-15
	32-60	Silt loam------	CL-ML, CL	A-4, A-6	0	0	100	95-100	90-100	70-90	25-35	5-15
Scipio----------	0-5	Loam-----------	CL-ML, CL	A-4, A-6	0	0	100	95-100	85-95	60-75	25-35	5-15
	5-11	Loam-----------	CL-ML, CL	A-4, A-6	0	0	100	95-100	85-95	60-75	25-35	5-15
	11-21	Silt loam------	CL-ML, CL	A-4, A-6	0	0	100	95-100	85-100	70-85	25-35	5-15
	21-36	Sandy loam-----	SC-SM	A-2, A-4	0	0	100	95-100	55-70	30-40	20-25	5-10
	36-60	Silt loam------	CL-ML, CL	A-4, A-6	0	0	100	95-100	85-100	70-85	25-35	5-15
12: Bentaxle--------	0-3	Gravelly loam--	GM-GC, SC-SM	A-4	0	0-5	60-80	55-75	45-60	35-50	25-35	5-10
	3-5	Gravelly loam--	SC-SM, GM-GC	A-4	0	0-15	65-80	60-75	50-65	35-50	25-35	5-10
	5-14	Very cobbly loam.	GM-GC	A-2, A-4	0-10	25-40	35-50	35-70	35-60	25-50	25-35	5-10
	14-19	Very gravelly fine sandy loam.	GM-GC	A-2	0	0-20	40-55	35-50	25-40	15-30	25-30	5-10
	19	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
12:												
Lodar----------	0-3	Extremely stony loam.	GM-GC	A-2	5-10	35-50	30-40	25-35	25-35	15-25	25-30	5-10
	3-10	Very gravelly loam.	GM-GC	A-2, A-4	0-5	20-30	50-60	45-55	40-50	30-40	25-30	5-10
	10-17	Very gravelly loam.	GM-GC	A-2, A-4	0	10-15	55-65	50-60	40-55	30-45	25-30	5-10
	17	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
13:												
Bentaxle--------	0-3	Stony loam-----	SC-SM, GM-GC, CL-ML	A-4, A-2	10-30	5-15	60-85	55-80	40-75	30-60	20-25	5-10
	3-5	Gravelly loam--	SC-SM, GM-GC	A-4	0	0-15	65-80	60-75	50-65	35-50	25-35	5-10
	5-14	Very cobbly loam.	GM-GC	A-2, A-4	0-10	25-40	35-50	35-70	35-60	25-50	25-35	5-10
	14-19	Very gravelly fine sandy loam.	GM-GC	A-2	0	0-20	40-55	35-50	25-40	15-30	25-30	5-10
	19	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
Rock outcrop.												
14:												
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP
15:												
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP
Oakcity---------	0-5	Loam-----------	CL-ML	A-4	0	0	100	100	85-95	60-75	20-30	5-10
	5-10	Clay loam------	CL	A-6	0	0	100	100	90-100	70-80	30-40	10-15
	10-15	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	10-20
	15-60	Silty clay-----	CL, CH	A-7	0	0	100	100	95-100	90-95	40-55	15-30
Heist-----------	0-14	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	90-100	65-80	35-55	20-30	5-10
	14-60	Fine sandy loam, sandy loam.	SM, SC-SM	A-2, A-4	0	0	85-95	80-90	55-70	25-45	20-25	NP-10
16:												
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP
Taylorsflat-----	0-3	Loam-----------	CL-ML	A-4, A-6	0	0	95-100	95-100	85-95	55-75	20-35	5-15
	3-15	Loam-----------	CL-ML	A-4, A-6	0	0	95-100	95-100	85-95	55-75	20-35	5-15
	15-39	Loam-----------	CL-ML	A-4, A-6	0	0	95-100	95-100	85-95	55-75	20-35	5-15
	39-60	Loam-----------	CL-ML	A-4, A-6	0	0	95-100	90-100	85-95	55-75	20-35	5-15
Mellor----------	0-6	Silt loam------	CL-ML, CL	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	6-21	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	21-60	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	25-45	10-20

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
17:												
Bonolden--------	0-7	Silt loam------	CL-ML, CL	A-4	0	0	95-100	90-100	90-100	70-90	25-30	5-10
	7-22	Silt loam------	CL-ML, CL	A-4	0	0	95-100	90-100	90-100	70-90	25-30	5-10
	22-36	Silt loam------	CL-ML, CL	A-4	0	0	95-100	90-100	90-100	70-90	25-30	5-10
	36-60	Silt loam------	CL-ML, CL	A-4	0	0	95-100	90-95	80-90	65-90	25-30	5-10
18:												
Bonolden--------	0-7	Silt loam------	CL-ML, CL	A-4	0	0	95-100	90-100	90-100	70-90	25-30	5-10
	7-22	Silt loam------	CL-ML, CL	A-4	0	0	95-100	90-100	90-100	70-90	25-30	5-10
	22-36	Silt loam------	CL-ML, CL	A-4	0	0	95-100	90-100	90-100	70-90	25-30	5-10
	36-60	Silt loam------	CL-ML, CL	A-4	0	0	95-100	90-95	80-90	65-90	25-30	5-10
Erda------------	0-6	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	6-18	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	18-23	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	23-38	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	70-90	20-30	5-10
	38-60	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	70-90	20-30	5-10
19:												
Borvant---------	0-7	Very gravelly loam.	GM-GC	A-2	0	10-25	40-45	35-40	30-40	20-30	20-30	5-10
	7-14	Extremely gravelly loam, very gravelly loam.	GM-GC	A-2	0	0-20	25-35	20-30	15-25	10-20	20-30	5-10
	14	Indurated------	---	---	0	0	0	0	0	0	---	NP
20:												
Borvant---------	0-7	Very gravelly loam.	GM-GC	A-2	0	10-25	40-45	35-40	30-40	20-30	20-30	5-10
	7-14	Extremely gravelly loam, very gravelly loam.	GM-GC	A-2	0	0-20	25-35	20-30	15-25	10-20	20-30	5-10
	14	Indurated------	---	---	0	0	0	0	0	0	---	NP
Jardal----------	0-4	Gravelly very fine sandy loam.	GM, GM-GC, GC, SC-SM	A-2, A-4	0	0-5	60-80	55-75	50-65	30-40	20-25	NP-10
	4-9	Very gravelly very fine sandy loam.	GM, GM-GC, GC	A-2	0	0-10	45-55	40-50	35-50	20-30	20-25	NP-10
	9-26	Extremely gravelly very fine sandy loam.	GM, GM-GC, GC, GP-GM	A-1, A-2	0	5-10	25-30	20-30	15-20	10-15	20-25	NP-10
	26-30	Indurated------	---	---	0	0	0	0	0	0	---	NP
21:												
Borvant---------	0-7	Very gravelly loam.	GM-GC	A-2	0	10-25	40-45	35-40	30-40	20-30	20-30	5-10
	7-14	Extremely gravelly loam, very gravelly loam.	GM-GC	A-2	0	0-20	25-35	20-30	15-25	10-20	20-30	5-10
	14	Indurated------	---	---	0	0	0	0	0	0	---	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
21:												
Jardal----------	0-4	Gravelly very fine sandy loam.	GM, GM-GC, GC, SC-SM	A-2, A-4	0	0-5	60-80	55-75	50-65	30-40	20-25	NP-10
	4-9	Very gravelly very fine sandy loam.	GM, GM-GC, GC	A-2	0	0-10	45-55	40-50	35-50	20-30	20-25	NP-10
	9-26	Extremely gravelly very fine sandy loam.	GM, GM-GC, GC, GP-GM	A-1, A-2	0	5-10	25-30	20-30	15-20	10-15	20-25	NP-10
	26-30	Indurated------	---	---	0	0	0	0	0	0	---	NP
22:												
Borvant---------	0-7	Very gravelly loam.	GM-GC	A-2	0	10-25	40-45	35-40	30-40	20-30	20-30	5-10
	7-14	Extremely gravelly loam, very gravelly loam.	GM-GC	A-2	0	0-20	25-35	20-30	15-25	10-20	20-30	5-10
	14	Indurated------	---	---	0	0	0	0	0	0	---	NP
Pavant----------	0-4	Loam-----------	CL-ML, CL	A-4	0	0	100	95-100	75-95	55-70	20-30	5-10
	4-11	Loam-----------	CL-ML, CL	A-4	0	0	100	95-100	75-95	55-70	20-30	5-10
	11-17	Loam-----------	CL-ML, CL	A-4	0	0-5	85-95	80-90	70-90	50-65	20-30	5-10
	17	Indurated------	---	---	0	0	0	0	0	0	---	NP
23:												
Boxelder--------	0-5	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	70-85	25-35	5-10
	5-18	Loam-----------	CL-ML	A-4	0	0	100	100	85-95	60-75	25-35	5-10
	18-27	Loam-----------	CL-ML	A-4	0	0	100	100	85-95	60-75	25-35	5-10
	27-60	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	65-90	20-30	5-10
24:												
Boxelder--------	0-5	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	70-85	25-35	5-10
	5-18	Loam-----------	CL-ML	A-4	0	0	100	100	85-95	60-75	25-35	5-10
	18-27	Loam-----------	CL-ML	A-4	0	0	100	100	85-95	60-75	25-35	5-10
	27-60	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	65-90	20-30	5-10
25:												
Calita----------	0-8	Very fine sandy loam.	CL-ML	A-4	0	0	90-100	90-100	90-100	55-65	20-30	5-10
	8-16	Silt loam------	CL-ML	A-4	0	0	95-100	90-100	90-100	70-90	25-30	5-10
	16-60	Loam-----------	CL-ML	A-4	0	0	95-100	90-100	90-100	70-90	25-30	5-10
Erda------------	0-6	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	6-18	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	18-23	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	23-38	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	70-90	20-30	5-10
	38-60	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	70-90	20-30	5-10
26:												
Calita----------	0-8	Very fine sandy loam.	CL-ML	A-4	0	0	90-100	90-100	90-100	55-65	20-30	5-10
	8-16	Silt loam------	CL-ML	A-4	0	0	95-100	90-100	90-100	70-90	25-30	5-10
	16-60	Loam-----------	CL-ML	A-4	0	0	95-100	90-100	90-100	70-90	25-30	5-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
26:												
Erda------------	0-6	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	6-18	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	18-23	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	23-38	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	70-90	20-30	5-10
	38-60	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	70-90	20-30	5-10
27:												
Cessna----------	0-3	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	65-75	25-30	5-10
	3-10	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	65-75	25-30	5-10
	10-27	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	65-75	25-30	5-10
	27-60	Loam-----------	CL-ML	A-4	0	0	90-100	85-95	80-90	55-70	25-30	5-10
28:												
Checkett--------	0-4	Very stony loam	GM-GC	A-4	5-10	35-50	70-80	60-70	50-65	35-50	15-25	NP-10
	4-8	Very cobbly loam.	GM-GC	A-4	0	35-45	70-80	60-70	50-65	35-50	20-30	5-10
	8-16	Very cobbly clay loam.	GC	A-6	0	40-50	50-60	40-50	35-50	30-40	30-40	10-15
	16	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
Amtoft----------	0-8	Gravelly loam--	CL-ML, CL	A-4, A-6	0	0	80-85	75-80	67-75	50-60	25-35	5-15
	8-19	Very cobbly loam.	GC, GM-GC	A-4, A-6	0	30-40	45-55	40-50	40-45	35-45	25-35	5-15
	19	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
29:												
Church Springs--	0-4	Silt loam------	CL-ML	A-4	0	0	95-100	90-100	85-95	70-85	25-30	5-10
	4-10	Silt loam------	CL-ML	A-4	0	0	100	95-100	85-95	70-85	25-30	5-10
	10-17	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	75-95	30-40	10-15
	17-27	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	75-95	30-40	10-15
	27-38	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	75-95	30-40	10-15
	38-60	Silty clay loam	CL	A-6	0	0	100	85-100	80-100	70-95	30-40	10-15
30:												
Cloyd-----------	0-3	Gravelly loam--	GM-GC, SC-SM	A-4	0	0-10	65-80	60-75	50-65	35-50	25-30	5-10
	3-7	Cobbly loam----	GM-GC, SC-SM	A-4	0	20-25	70-80	65-75	55-65	35-50	25-30	5-10
	7-15	Gravelly loam--	GM-GC, SC-SM	A-4	0	5-10	65-80	60-75	50-65	35-50	25-30	5-10
	15	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
Rock outcrop.												
31:												
Collard---------	0-9	Gravelly loam--	GM-GC, SC-SM	A-4	0	0-5	70-75	65-70	55-60	40-50	25-30	5-10
	9-17	Very cobbly clay loam.	CL, GC	A-4, A-6	0-5	15-25	65-70	60-65	55-65	40-55	30-35	10-15
	17-28	Very cobbly sandy loam.	GM, SM	A-2	0	20-35	50-60	45-55	30-40	10-20	20-25	NP-5
	28-60	Very cobbly loamy sand.	GM, SM	A-1, A-2	0-10	45-50	35-45	30-40	20-30	5-10	15-20	NP-5
32:												
Curdli----------	0-10	Loam-----------	CL-ML	A-4	0	0	95-100	90-95	75-85	55-75	20-30	5-10
	10-15	Loam-----------	CL-ML	A-4	0	0	95-100	90-95	75-85	55-75	20-30	5-10
	15-28	Silt loam------	CL-ML	A-4	0	0	100	95-100	80-90	70-90	25-30	5-10
	28-37	Silt loam------	CL-ML	A-4	0	0	100	95-100	80-90	70-90	25-30	5-10
	37-48	Silt loam------	CL-ML	A-4	0	0	100	95-100	80-90	70-90	25-30	5-10
	48-60	Silt loam------	CL-ML	A-4	0	0	100	95-100	80-90	70-90	25-30	5-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
33:												
Current Spring	0-5	Gravelly loam	SC-SM	A-4	0	5-10	60-70	55-65	50-60	35-45	25-30	5-10
	5-13	Gravelly clay loam.	GC, CL	A-4, A-6	0	5-10	60-70	55-65	50-65	45-55	25-35	10-15
	13-24	Very gravelly clay loam.	GC	A-4, A-6	5-10	10-20	55-65	50-60	45-55	35-50	25-35	10-15
	24-41	Very gravelly clay.	GC	A-4, A-6	5-10	10-30	35-50	30-45	25-45	20-40	35-50	15-30
	41-60	Very gravelly clay loam.	GC	A-4, A-6	5-10	10-30	30-50	25-45	25-45	20-40	35-50	15-30
34:												
Current Spring	0-5	Gravelly loam	SC-SM	A-4	0	5-10	60-70	55-65	50-60	35-45	25-30	5-10
	5-13	Gravelly clay loam.	GC, CL	A-4, A-6	0	5-10	60-70	55-65	50-65	45-55	25-35	10-15
	13-24	Very gravelly clay loam.	GC	A-4, A-6	5-10	10-20	55-65	50-60	45-55	35-50	25-35	10-15
	24-41	Very gravelly clay.	GC	A-4, A-6	5-10	10-30	35-50	30-45	25-45	20-40	35-50	15-30
	41-60	Very gravelly clay loam.	GC	A-4, A-6	5-10	10-30	30-50	25-45	25-45	20-40	35-50	15-30
Maple Hollow	0-2	Loam	CL-ML	A-4	0	0	95-100	90-100	75-90	60-75	25-30	5-10
	2-8	Clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	80-95	65-80	30-35	5-15
	8-16	Clay loam	CL	A-6	0	0	95-100	90-100	80-90	60-80	30-35	10-15
	16-44	Clay	CL	A-6, A-7	0	0	95-100	90-100	80-90	70-80	35-50	15-25
	44-60	Loam	CL-ML	A-4	0	0-5	95-100	90-100	70-80	60-70	25-30	5-10
35:												
Current Spring	0-5	Gravelly loam	SC-SM	A-4	0	5-10	60-70	55-65	50-60	35-45	25-30	5-10
	5-13	Gravelly clay loam.	GC, CL	A-4, A-6	0	5-10	60-70	55-65	50-65	45-55	25-35	10-15
	13-24	Very gravelly clay loam.	GC	A-4, A-6	5-10	10-20	55-65	50-60	45-55	35-50	25-35	10-15
	24-41	Very gravelly clay.	GC	A-4, A-6	5-10	10-30	35-50	30-45	25-45	20-40	35-50	15-30
	41-60	Very gravelly clay loam.	GC	A-4, A-6	5-10	10-30	30-50	25-45	25-45	20-40	35-50	15-30
Maple Hollow	0-2	Loam	CL-ML	A-4	0	0	95-100	90-100	75-90	60-75	25-30	5-10
	2-8	Clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	80-95	65-80	30-35	5-15
	8-16	Clay loam	CL	A-6	0	0	95-100	90-100	80-90	60-80	30-35	10-15
	16-44	Clay	CL	A-6, A-7	0	0	95-100	90-100	80-90	70-80	35-50	15-25
	44-60	Loam	CL-ML	A-4	0	0-5	95-100	90-100	70-80	60-70	25-30	5-10
36:												
Deseret	0-4	Silt loam	CL, CL-ML	A-4	0	0	100	100	85-100	80-90	25-30	5-10
	4-24	Silt loam	CL-ML	A-4	0	0	100	100	85-100	80-90	25-30	5-10
	24-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
37:												
Donnardo	0-8	Very stony loam	GM-GC	A-4	5-10	30-40	60-70	55-65	50-60	35-45	20-30	5-10
	8-24	Very gravelly loam.	GM-GC	A-2, A-4	0	45-50	55-60	50-55	45-55	30-45	25-30	5-10
	24-35	Extremely gravelly sandy loam.	GM-GC, GP-GC	A-2, A-1	0	75-80	25-30	20-25	15-20	5-15	25-30	5-10
	35-60	Very cobbly loam.	GM-GC	A-2, A-4	0	45-65	40-60	35-55	35-50	25-40	25-30	5-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
38: Donnardo--------	0-11	Gravelly fine sandy loam.	SC-SM	A-2, A-4	0-5	20-30	75-80	70-75	30-55	30-40	20-30	5-10
	11-21	Gravelly fine sandy loam.	SC-SM	A-2, A-4	0	25-30	75-80	70-75	30-55	30-40	20-30	5-10
	21-60	Very cobbly loam.	GC, GM-GC, SC-SM, SC	A-2, A-1	0	35-60	45-70	40-65	30-55	10-30	25-35	10-15
Borvant---------	0-7	Very gravelly loam.	GM-GC	A-2	0	10-25	40-45	35-40	30-40	20-30	20-30	5-10
	7-14	Extremely gravelly loam, very gravelly loam.	GM-GC	A-2	0	0-20	25-35	20-30	15-25	10-20	20-30	5-10
	14	Indurated------	---	---	0	0	0	0	0	0	---	NP
Collard---------	0-9	Gravelly loam--	GM-GC, SC-SM	A-4	0	0-5	70-75	65-70	55-60	40-50	25-30	5-10
	9-17	Very cobbly clay loam.	CL, GC	A-4, A-6	0-5	15-25	65-70	60-65	55-65	40-55	30-35	10-15
	17-28	Very cobbly sandy loam.	GM, SM	A-2	0	20-35	50-60	45-55	30-40	10-20	20-25	NP-5
	28-60	Very cobbly loamy sand.	GM, SM	A-1, A-2	0-10	45-50	35-45	30-40	20-30	5-10	15-20	NP-5
39: Donnardo--------	0-8	Very stony loam	GM-GC	A-4	5-10	30-40	60-70	55-65	50-60	35-45	20-30	5-10
	8-24	Very gravelly loam.	GM-GC	A-2, A-4	0	45-50	55-60	50-55	45-55	30-45	25-30	5-10
	24-35	Extremely gravelly sandy loam.	GM-GC, GP-GC	A-2, A-1	0	75-80	25-30	20-25	15-20	5-15	25-30	5-10
	35-60	Very cobbly loam.	GM-GC	A-2, A-4	0	45-65	40-60	35-55	35-50	25-40	25-30	5-10
Kapod-----------	0-4	Very stony loam	GM-GC	A-2, A-4	5-10	10-25	55-65	50-60	40-55	30-45	25-35	5-10
	4-14	Very gravelly clay loam.	GC	A-6	0	5-15	50-60	45-55	45-50	35-45	35-40	10-15
	14-20	Extremely gravelly clay loam.	GC	A-2	0	15-30	30-35	25-30	20-30	15-25	35-40	10-15
	20-30	Extremely gravelly sandy loam.	GP-GC, GM-GC	A-1, A-2	0	10-25	25-35	20-30	10-20	5-15	20-25	5-10
	30-60	Extremely gravelly loam.	GM-GC	A-1, A-2	0	10-25	25-35	20-30	15-30	10-25	25-30	5-10
40: Dune land.												
41: Erda------------	0-6	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	6-18	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	18-23	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	23-38	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	70-90	20-30	5-10
	38-60	Silt loam------	CL-ML	A-4	0	0	100	100	85-95	70-90	20-30	5-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
42:												
Escalante-------	0-19	Sandy loam-----	SM, SC-SM	A-2, A-4	0	0	100	100	65-80	30-50	15-25	NP-10
	19-33	Fine sandy loam	SC-SM, SM	A-4	0	0	100	100	70-85	40-50	15-25	NP-10
	33-44	Fine sandy loam	SM, SC-SM	A-4	0	0	100	100	70-85	35-50	15-25	NP-10
	44-46	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	46-51	Loamy fine sand	SM, SC-SM	A-2	0	0	100	100	50-75	15-30	15-25	NP-5
	51-60	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	25-30	5-10
43:												
Escalante-------	0-19	Sandy loam-----	SM, SC-SM	A-2, A-4	0	0	100	100	65-80	30-50	15-25	NP-10
	19-33	Fine sandy loam	SC-SM, SM	A-4	0	0	100	100	70-85	40-50	15-25	NP-10
	33-44	Fine sandy loam	SM, SC-SM	A-4	0	0	100	100	70-85	35-50	15-25	NP-10
	44-46	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	46-51	Loamy fine sand	SM, SC-SM	A-2	0	0	100	100	50-75	15-30	15-25	NP-5
	51-60	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	25-30	5-10
44:												
Escalante-------	0-10	Very gravelly sandy loam.	GM, GM-GC, GP-GM	A-2, A-1	0	0-10	35-45	30-40	15-30	10-15	15-25	NP-10
	10-27	Gravelly sandy loam.	GM, SM, GM-GC, SC-SM	A-1, A-2	0	0	60-75	55-70	35-50	20-30	15-25	NP-10
	27-60	Sandy loam-----	SM, SC-SM, SC	A-2, A-4	0	0	90-100	85-100	50-70	30-40	15-25	NP-10
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP
Escalante-------	0-5	Fine sandy loam	SC-SM, SM	A-4	0	0	95-100	90-95	65-80	35-50	20-25	NP-5
	5-14	Fine sandy loam	SC-SM, SM	A-4	0	0	80-95	75-90	65-80	35-50	20-25	NP-5
	14-20	Fine sandy loam	SC-SM, SM	A-4	0	0	80-95	75-90	65-80	35-50	20-25	NP-5
	20-44	Fine sandy loam	SC-SM, SM	A-4	0	0	80-95	75-90	65-80	35-50	20-25	NP-5
	44-60	Gravelly sandy loam.	SC-SM, SM	A-2	0	5-10	80-100	75-95	40-60	25-35	20-25	NP-5
45:												
Firmage---------	0-3	Loam-----------	CL-ML	A-4	0	0	90-100	85-95	75-85	55-70	25-30	5-10
	3-16	Clay loam------	CL, ML, CL-ML	A-4, A-6	0	0	90-100	85-95	80-90	60-70	25-35	10-15
	16-25	Cobbly loam----	CL, ML	A-4, A-6	0	10-15	85-95	80-90	80-90	60-70	25-30	5-10
	25-43	Stony loam-----	CL, ML, CL-ML	A-4	5-10	5-10	85-95	80-90	75-85	50-70	25-30	5-10
	43-60	Very cobbly sandy clay loam.	GM-GC	A-2	5-10	25-40	45-55	40-50	35-45	20-30	25-35	10-15
46:												
Firmage---------	0-3	Loam-----------	CL-ML	A-4	0	0	90-100	85-95	75-85	55-70	25-30	5-10
	3-16	Clay loam------	CL, ML, CL-ML	A-4, A-6	0	0	90-100	85-95	80-90	60-70	25-35	10-15
	16-25	Cobbly loam----	CL, ML	A-4, A-6	0	10-15	85-95	80-90	80-90	60-70	25-30	5-10
	25-43	Stony loam-----	CL, ML, CL-ML	A-4	5-10	5-10	85-95	80-90	75-85	50-70	25-30	5-10
	43-60	Very cobbly sandy clay loam.	GM-GC	A-2	5-10	25-40	45-55	40-50	35-45	20-30	25-35	10-15
Hiko Peak-------	0-9	Stony fine sandy loam.	SC-SM, SM, GM-GC	A-2, A-4	5-10	10-20	65-85	60-80	40-60	25-45	20-30	NP-10
	9-49	Very gravelly sandy loam.	SM, SC-SM, GM-GC, GM	A-2	0	5-15	55-70	50-55	30-60	15-35	20-30	NP-10
	49-60	Very gravelly sandy loam.	SM, SC-SM, GM-GC, GM	A-1, A-2	0-5	5-15	35-60	30-55	15-40	10-15	20-30	NP-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
47:												
Freedom---------	0-5	Silt loam------	CL-ML, CL	A-4	0	0	100	100	95-100	70-90	25-30	5-10
	5-12	Silt loam------	CL-ML, CL	A-4	0	0	100	100	95-100	70-95	25-30	5-10
	12-26	Silt loam------	CL-ML, CL	A-4	0	0	100	100	95-100	70-90	25-30	5-10
	26-60	Silty clay loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	70-95	25-35	5-15
48:												
Freedom---------	0-5	Silt loam------	CL-ML, CL	A-4	0	0	100	100	95-100	70-90	25-30	5-10
	5-12	Silt loam------	CL-ML, CL	A-4	0	0	100	100	95-100	70-95	25-30	5-10
	12-26	Silt loam------	CL-ML, CL	A-4	0	0	100	100	95-100	70-90	25-30	5-10
	26-60	Silty clay loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	70-95	25-35	5-15
49:												
Genola----------	0-3	Silt loam------	CL	A-6	0	0	100	100	85-100	75-90	20-30	10-15
	3-11	Silt loam------	CL	A-6	0	0	100	100	85-100	75-90	20-30	10-15
	11-60	Silt loam------	CL	A-6	0	0	100	100	85-100	75-90	20-30	10-15
50:												
Genola----------	0-3	Silt loam------	CL	A-6	0	0	100	100	85-100	75-90	20-30	10-15
	3-11	Silt loam------	CL	A-6	0	0	100	100	85-100	75-90	20-30	10-15
	11-60	Silt loam------	CL	A-6	0	0	100	100	85-100	75-90	20-30	10-15
51:												
Green River-----	0-3	Loam-----------	CL-ML	A-4	0	0	95-100	90-100	70-90	55-75	25-30	5-10
	3-9	Silt loam------	CL-ML	A-4	0	0	95-100	90-100	70-90	55-75	25-30	5-10
	9-18	Sandy loam-----	SM, SC-SM	A-2, A-4	0	0	90-100	85-95	45-65	25-40	20-30	NP-10
	18-60	Sandy loam-----	SM, SC-SM	A-2, A-4	0	0	85-95	80-90	40-60	25-40	20-30	NP-10
Poganeab--------	0-4	Loam-----------	CL-ML, CL	A-4	0	0	90-100	85-100	70-90	55-75	25-30	5-10
	4-9	Loam-----------	CL-ML, CL	A-4	0	0	90-100	85-100	70-95	55-75	25-30	5-10
	9-48	Silty clay loam	CL	A-6	0	0	95-100	95-100	85-95	75-90	30-40	10-15
	48-60	Sandy loam-----	SM, SC-SM, SC	A-2, A-4	0	0	85-95	80-90	40-60	25-40	20-30	NP-10
52:												
Heist-----------	0-14	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	90-100	65-80	35-55	20-30	5-10
	14-60	Fine sandy loam, sandy loam.	SM, SC-SM	A-2, A-4	0	0	85-95	80-90	55-70	25-45	20-25	NP-10
53:												
Heist-----------	0-14	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	90-100	65-80	35-55	20-30	5-10
	14-60	Fine sandy loam, sandy loam.	SM, SC-SM	A-2, A-4	0	0	85-95	80-90	55-70	25-45	20-25	NP-10
54:												
Heist-----------	0-23	Fine sandy loam	ML, SC-SM	A-4	0	0	100	100	70-85	40-55	20-25	NP-5
	23-47	Fine sandy loam	SC-SM	A-4	0	0	80-95	75-90	55-75	35-50	20-25	NP-5
	47-57	Very gravelly sandy loam.	GM-GC	A-1	0	0-5	45-55	40-50	25-35	10-20	20-25	NP-5
	57-60	Sandy loam-----	SC-SM	A-2	0	0	85-95	80-90	45-65	25-35	20-25	NP-5
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP
55:												
Heist-----------	0-23	Fine sandy loam	ML, SC-SM	A-4	0	0	100	100	70-85	40-55	20-25	NP-5
	23-47	Fine sandy loam	SC-SM	A-4	0	0	80-95	75-90	55-75	35-50	20-25	NP-5
	47-57	Very gravelly sandy loam.	GM-GC	A-1	0	0-5	45-55	40-50	25-35	10-20	20-25	NP-5
	57-60	Sandy loam-----	SC-SM	A-2	0	0	85-95	80-90	45-65	25-35	20-25	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
55:												
Linoyer---------	0-3	Loam-----------	CL-ML	A-4	0	0	100	95-100	75-95	55-70	20-25	5-10
	3-9	Loam-----------	CL-ML	A-4	0	0	100	95-100	75-95	55-70	20-25	5-10
	9-52	Silt loam------	CL-ML	A-4	0	0	100	95-100	80-90	65-90	20-25	5-10
	52-60	Silt loam------	CL-ML	A-4	0	0	100	95-100	80-95	65-90	20-25	5-10
56:												
Hiko Peak-------	0-10	Extremely stony loam.	GM-GC	A-2	30-40	30-40	35-45	30-40	25-40	20-30	25-30	5-10
	10-22	Extremely cobbly loam.	GM-GC	A-2, A-4	10-20	20-40	50-60	45-55	40-50	30-40	25-30	5-10
	22-40	Extremely cobbly sandy loam.	GM-GC	A-2	10-20	20-40	30-40	25-35	15-25	10-15	20-30	5-10
	40-60	Extremely cobbly loam.	GM-GC	A-2	5-10	35-45	40-50	35-45	30-40	25-35	25-30	5-10
57:												
Hiko Peak-------	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	95-100	70-85	40-50	20-25	5-10
	3-16	Gravelly loam--	GM-GC, SC-SM	A-4	0	0	60-80	55-75	50-65	35-50	20-30	5-10
	16-29	Extremely gravelly sandy loam.	GM, GM-GC	A-1, A-2	0	15-20	45-55	40-50	35-50	20-30	15-25	NP-10
	29-43	Extremely gravelly sandy loam.	GM, GM-GC	A-1, A-2	0	10-15	45-55	40-50	35-50	20-30	15-25	NP-10
	43-49	Extremely gravelly loamy sand.	GM	A-1	0	10-15	45-55	40-50	30-40	15-20	15-20	NP-5
	49-60	Very gravelly sand.	GM, SM	A-1	0	5-10	50-60	45-55	25-35	10-15	15-20	NP-5
58:												
Hiko Peak-------	0-4	Gravelly loam--	GM-GC	A-2, A-4	0	0-5	65-75	60-70	50-65	35-45	20-30	5-10
	4-13	Gravelly loam--	GM-GC, SC-SM	A-4	0	0	70-80	65-75	55-70	40-50	25-30	5-10
	13-27	Very gravelly loam.	GM-GC	A-2	0	0	35-45	30-40	25-40	20-30	20-30	5-10
	27-37	Extremely gravelly loam.	GM-GC	A-2	0	0	25-30	20-25	15-25	10-20	20-30	5-10
	37-60	Very gravelly fine sandy loam.	GM	A-2, A-1	0	0	45-55	40-50	25-45	15-30	20-25	NP-5
59:												
Hiko Peak-------	0-4	Gravelly loam--	SC-SM, GM-GC	A-4	0	0-5	70-80	65-75	55-65	35-50	20-25	5-10
	4-13	Gravelly loam--	SC-SM, GM-GC	A-4	0	0-10	70-80	65-75	55-65	35-50	20-25	5-10
	13-20	Very cobbly loam.	GM-GC, GC	A-4, A-2	0	20-30	55-65	50-60	40-55	30-40	20-25	5-10
	20-30	Very gravelly loam.	GM-GC, GC	A-4, A-2	0	10-20	55-65	50-60	40-55	30-40	20-25	5-10
	30-60	Very gravelly sandy loam.	GM-GC, GM	A-2, A-1	0	10-20	45-55	40-50	30-40	20-30	15-25	NP-10
60:												
Hiko Peak-------	0-9	Stony fine sandy loam.	SC-SM, SM, GM-GC	A-2, A-4	5-10	10-20	65-85	60-80	40-60	25-45	20-30	NP-10
	9-49	Very gravelly sandy loam.	SM, SC-SM, GM-GC, GM	A-2	0	5-15	55-70	50-55	30-60	15-35	20-30	NP-10
	49-60	Very gravelly sandy loam.	SM, SC-SM, GM-GC, GM	A-1, A-2	0-5	5-15	35-60	30-55	15-40	10-15	20-30	NP-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
61:												
Hiko Peak-------	0-9	Stony fine sandy loam.	SC-SM, SM, GM-GC	A-2, A-4	5-10	10-20	65-85	60-80	40-60	25-45	20-30	NP-10
	9-49	Very gravelly sandy loam.	SM, SC-SM, GM-GC, GM	A-2	0	5-15	55-70	50-55	30-60	15-35	20-30	NP-10
	49-60	Very gravelly sandy loam.	SM, SC-SM, GM-GC, GM	A-1, A-2	0-5	5-15	35-60	30-55	15-40	10-15	20-30	NP-10
Amtoft----------	0-8	Gravelly loam--	CL-ML, CL	A-4, A-6	0	0	80-85	75-80	67-75	50-60	25-35	5-15
	8-19	Very cobbly loam.	GC, GM-GC	A-4, A-6	0	30-40	45-55	40-50	40-45	35-45	25-35	5-15
	19	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
62:												
Hiko Peak-------	0-4	Gravelly loam--	SC-SM, GM-GC	A-4	0	0-5	70-80	65-75	55-65	35-50	20-25	5-10
	4-13	Gravelly loam--	SC-SM, GM-GC	A-4	0	0-10	70-80	65-75	55-65	35-50	20-25	5-10
	13-20	Very cobbly loam.	GM-GC, GC	A-4, A-2	0	20-30	55-65	50-60	40-55	30-40	20-25	5-10
	20-30	Very gravelly loam.	GM-GC, GC	A-4, A-2	0	10-20	55-65	50-60	40-55	30-40	20-25	5-10
	30-60	Very gravelly sandy loam.	GM-GC, GM	A-2, A-1	0	10-20	45-55	40-50	30-40	20-30	15-25	NP-10
Heist-----------	0-4	Fine sandy loam	SM	A-4	0	0	90-100	85-100	65-85	35-50	0-25	NP-5
	4-36	Fine sandy loam, sandy loam, loam.	SM, ML	A-4, A-2	0	0	95-100	90-100	60-90	30-60	0-25	NP-5
	36-60	Gravelly fine sandy loam, sandy loam.	SM	A-2, A-4	0	0	65-90	60-85	40-65	25-50	0-25	NP-5
63:												
Hiko Peak-------	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	95-100	70-85	40-50	20-25	5-10
	3-16	Gravelly loam--	GM-GC, SC-SM	A-4	0	0	60-80	55-75	50-65	35-50	20-30	5-10
	16-29	Extremely gravelly sandy loam.	GM, GM-GC	A-1, A-2	0	15-20	45-55	40-50	35-50	20-30	15-25	NP-10
	29-43	Extremely gravelly sandy loam.	GM, GM-GC	A-1, A-2	0	10-15	45-55	40-50	35-50	20-30	15-25	NP-10
	43-49	Extremely gravelly loamy sand.	GM	A-1	0	10-15	45-55	40-50	30-40	15-20	15-20	NP-5
	49-60	Very gravelly sand.	GM, SM	A-1	0	5-10	50-60	45-55	25-35	10-15	15-20	NP-5
Heist-----------	0-14	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	90-100	65-80	35-55	20-30	5-10
	14-60	Fine sandy loam, sandy loam.	SM, SC-SM	A-2, A-4	0	0	85-95	80-90	55-70	25-45	20-25	NP-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
64:												
Hiko Peak-------	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	95-100	70-85	40-50	20-25	5-10
	3-16	Gravelly loam--	GM-GC, SC-SM	A-4	0	0	60-80	55-75	50-65	35-50	20-30	5-10
	16-29	Extremely gravelly sandy loam.	GM, GM-GC	A-1, A-2	0	15-20	45-55	40-50	35-50	20-30	15-25	NP-10
	29-43	Extremely gravelly sandy loam.	GM, GM-GC	A-1, A-2	0	10-15	45-55	40-50	35-50	20-30	15-25	NP-10
	43-49	Extremely gravelly loamy sand.	GM	A-1	0	10-15	45-55	40-50	30-40	15-20	15-20	NP-5
	49-60	Very gravelly sand.	GM, SM	A-1	0	5-10	50-60	45-55	25-35	10-15	15-20	NP-5
Heist-----------	0-14	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	90-100	65-80	35-55	20-30	5-10
	14-60	Fine sandy loam, sandy loam.	SM, SC-SM	A-2, A-4	0	0	85-95	80-90	55-70	25-45	20-25	NP-10
65:												
Hiko Peak-------	0-4	Gravelly loam--	GM-GC, GC, SC-SM, SC	A-4, A-2	0	0-5	55-85	50-80	40-60	30-50	25-30	5-10
	4-8	Very gravelly loam.	GM-GC, GC	A-2, A-4	0	0-10	45-65	40-60	35-55	25-45	25-30	5-10
	8-18	Very gravelly sandy loam.	GM-GC, GP-GC, GM, GC	A-2, A-1	0	0-15	45-65	40-60	25-40	10-25	20-30	NP-10
	18-60	Very gravelly sandy loam.	GM-GC, GP-GC, GM, GC	A-1, A-2	0	0-15	40-60	35-55	20-40	10-25	20-30	NP-10
Pibler----------	0-7	Gravelly fine sandy loam.	SC-SM, GM-GC, GC, SC	A-4, A-2	0	5-10	65-80	60-75	55-65	30-40	25-30	5-10
	7-12	Very gravelly loam.	GM-GC, SC-SM, GC, SC	A-4, A-2	0	10-20	50-75	45-70	40-65	30-50	25-30	5-10
	12	Indurated------	---	---	0	0	0	0	0	0	---	NP
66:												
Jardal----------	0-4	Gravelly very fine sandy loam.	GM, GM-GC, GC, SC-SM	A-2, A-4	0	0-5	60-80	55-75	50-65	30-40	20-25	NP-10
	4-9	Very gravelly very fine sandy loam.	GM, GM-GC, GC	A-2	0	0-10	45-55	40-50	35-50	20-30	20-25	NP-10
	9-26	Extremely gravelly very fine sandy loam.	GM, GM-GC, GC, GP-GM	A-1, A-2	0	5-10	25-30	20-30	15-20	10-15	20-25	NP-10
	26-30	Indurated------	---	---	0	0	0	0	0	0	---	NP
Donnardo--------	0-11	Gravelly fine sandy loam.	SC-SM	A-2, A-4	0-5	20-30	75-80	70-75	30-55	30-40	20-30	5-10
	11-21	Gravelly fine sandy loam.	SC-SM	A-2, A-4	0	25-30	75-80	70-75	30-55	30-40	20-30	5-10
	21-60	Very cobbly loam.	GC, GM-GC, SC-SM, SC	A-2, A-1	0	35-60	45-70	40-65	30-55	10-30	25-35	10-15

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
67:												
Jigsaw----------	0-4	Silt loam------	CL-ML, CL	A-4	0	0	100	95-100	90-100	85-95	20-30	5-10
	4-9	Silt loam------	CL-ML, CL	A-4	0	0	100	95-100	90-100	85-95	20-30	5-10
	9-32	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-35	10-15
	32-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-35	10-15
68:												
Jigsaw----------	0-4	Silt loam------	CL-ML, CL	A-4	0	0	100	95-100	90-100	85-95	20-30	5-10
	4-9	Silt loam------	CL-ML, CL	A-4	0	0	100	95-100	90-100	85-95	20-30	5-10
	9-32	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-35	10-15
	32-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-35	10-15
Oakcity---------	0-5	Loam-----------	CL-ML	A-4	0	0	100	100	85-95	60-75	20-30	5-10
	5-10	Clay loam------	CL	A-6	0	0	100	100	90-100	70-80	30-40	10-15
	10-15	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	10-20
	15-60	Silty clay-----	CL, CH	A-7	0	0	100	100	95-100	90-95	40-55	15-30
69:												
Kanosh----------	0-4	Very fine sandy loam.	CL-ML	A-4	0	0	100	95-100	85-95	50-65	25-30	5-10
	4-19	Fine sandy loam	SC-SM	A-4	0	0	100	95-100	70-85	40-50	20-25	5-10
	19-30	Fine sandy loam	SC-SM	A-4	0	0	100	95-100	70-85	40-50	20-25	5-10
	30-38	Fine sandy loam	SC-SM	A-4	0	0	100	95-100	70-85	40-50	20-25	5-10
	38-60	Fine sandy loam	SC-SM	A-4	0	0	100	95-100	70-85	35-45	20-25	5-10
70:												
Kapod-----------	0-4	Very stony loam	GM-GC	A-2, A-4	5-10	10-25	55-65	50-60	40-55	30-45	25-35	5-10
	4-14	Very gravelly clay loam.	GC	A-6	0	5-15	50-60	45-55	45-50	35-45	35-40	10-15
	14-20	Extremely gravelly clay loam.	GC	A-2	0	15-30	30-35	25-30	20-30	15-25	35-40	10-15
	20-30	Extremely gravelly sandy loam.	GP-GC, GM-GC	A-1, A-2	0	10-25	25-35	20-30	10-20	5-15	20-25	5-10
	30-60	Extremely gravelly loam.	GM-GC	A-1, A-2	0	10-25	25-35	20-30	15-30	10-25	25-30	5-10
71:												
Kapod-----------	0-4	Very stony loam	GM-GC	A-2, A-4	5-10	10-25	55-65	50-60	40-55	30-45	25-35	5-10
	4-14	Very gravelly clay loam.	GC	A-6	0	5-15	50-60	45-55	45-50	35-45	35-40	10-15
	14-20	Extremely gravelly clay loam.	GC	A-2	0	15-30	30-35	25-30	20-30	15-25	35-40	10-15
	20-30	Extremely gravelly sandy loam.	GP-GC, GM-GC	A-1, A-2	0	10-25	25-35	20-30	10-20	5-15	20-25	5-10
	30-60	Extremely gravelly loam.	GM-GC	A-1, A-2	0	10-25	25-35	20-30	15-30	10-25	25-30	5-10
Collard---------	0-8	Extremely stony silt loam.	GM, GM-GC	A-2, A-4, A-6	10-20	35-50	45-50	40-45	35-45	30-40	25-35	5-15
	8-47	Very gravelly sandy clay loam.	GM, GC	A-2	0-5	15-25	45-55	40-50	30-45	15-30	25-40	5-15
	47-60	Extremely stony sandy loam.	SM, SC	A-2	30-40	45-50	75-85	70-80	40-55	20-30	20-25	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
72:												
Kapod	0-4	Very stony loam	GM-GC	A-2, A-4	5-10	10-25	55-65	50-60	40-55	30-45	25-35	5-10
	4-14	Very gravelly clay loam.	GC	A-6	0	5-15	50-60	45-55	45-50	35-45	35-40	10-15
	14-20	Extremely gravelly clay loam.	GC	A-2	0	15-30	30-35	25-30	20-30	15-25	35-40	10-15
	20-30	Extremely gravelly sandy loam.	GP-GC, GM-GC	A-1, A-2	0	10-25	25-35	20-30	10-20	5-15	20-25	5-10
	30-60	Extremely gravelly loam.	GM-GC	A-1, A-2	0	10-25	25-35	20-30	15-30	10-25	25-30	5-10
Rock outcrop.												
73:												
Kessler	0-3	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	3-6	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	6-15	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	15-22	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	22-43	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	43-60	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
74:												
Kessler	0-3	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	3-6	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	6-15	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	15-22	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	22-43	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	43-60	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
75:												
Kessler	0-3	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	3-6	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	6-15	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	15-22	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	22-43	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	43-60	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
Linoyer	0-3	Loam	CL-ML	A-4	0	0	100	95-100	75-95	55-70	20-25	5-10
	3-9	Loam	CL-ML	A-4	0	0	100	95-100	75-95	55-70	20-25	5-10
	9-52	Silt loam	CL-ML	A-4	0	0	100	95-100	80-90	65-90	20-25	5-10
	52-60	Silt loam	CL-ML	A-4	0	0	100	95-100	80-95	65-90	20-25	5-10
76:												
Kidman	0-7	Fine sandy loam	ML, CL-ML, SM, SC-SM	A-4	0	0	100	100	70-85	40-55	15-25	NP-10
	7-13	Silt loam	ML, CL-ML	A-4	0	0	100	100	80-100	65-90	15-25	NP-10
	13-34	Silt loam	ML, CL-ML	A-4	0	0	100	100	80-100	65-90	15-25	NP-10
	34-60	Sandy loam	SM, SC-SM	A-2, A-4	0	0	90-100	85-100	55-70	25-40	15-25	NP-10
Preston	0-18	Fine sand	SM	A-2	0	0	100	95-100	50-75	25-35	15-20	NP-5
	18-60	Loamy fine sand	SM	A-2	0	0	100	95-100	50-75	25-35	15-20	NP-5
77:												
Kitchell	0-14	Gravelly loam	SC-SM, GM-GC	A-4	0	5-15	65-85	60-80	55-70	35-50	20-30	5-10
	14-22	Extremely cobbly loam.	GM-GC	A-2	5-10	40-50	35-55	30-50	25-45	15-35	20-30	5-10
	22-60	Extremely stony loam.	GM-GC	A-2, A-4	30-50	20-40	40-65	35-60	30-55	25-45	20-30	5-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
78:												
Kudlac----------	0-3	Silt loam------	CL-ML	A-4	0	0	95-100	95-100	85-100	70-90	25-30	5-10
	3-6	Silty clay loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	75-95	25-35	5-15
	6-60	Silty clay loam	CL	A-6	0	0	95-100	95-100	85-100	75-95	30-35	10-15
79:												
Larwood---------	0-4	Fine sandy loam	ML, SM, CL-ML, SC-SM	A-4	0	0	100	95-100	70-85	35-55	20-25	NP-5
	4-12	Loam-----------	CL-ML, CL	A-4	0	0	100	95-100	85-95	60-75	25-30	5-10
	12-19	Silt loam------	CL-ML, CL	A-4	0	0	100	95-100	85-95	60-75	25-30	5-10
	19-39	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	80-95	30-35	10-15
	39-45	Silt loam------	CL-ML, CL	A-4	0	0	100	95-100	90-100	70-90	25-30	5-10
	45-60	Very fine sandy loam.	ML, CL, CL-ML	A-4	0	0	100	95-100	85-95	50-65	20-30	NP-10
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP
80: Lava flows.												
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP
81: Lava flows.												
Shotwell--------	0-3	Very cobbly loam.	SC-SM, GM-GC, GM	A-4	0	65-75	65-75	60-70	55-65	35-50	25-35	5-10
	3-14	Loam-----------	CL-ML, ML, CL	A-4	0	5-15	90-100	90-100	75-90	55-75	25-35	5-10
	14	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
82:												
Linoyer---------	0-3	Loam-----------	CL-ML	A-4	0	0	100	95-100	75-95	55-70	20-25	5-10
	3-9	Loam-----------	CL-ML	A-4	0	0	100	95-100	75-95	55-70	20-25	5-10
	9-52	Silt loam------	CL-ML	A-4	0	0	100	95-100	80-90	65-90	20-25	5-10
	52-60	Silt loam------	CL-ML	A-4	0	0	100	95-100	80-95	65-90	20-25	5-10
83:												
Linoyer---------	0-9	Very fine sandy loam.	ML, CL-ML	A-4	0	0	100	100	95-100	60-70	15-25	NP-10
	9-60	Very fine sandy loam.	ML, CL-ML	A-4	0	0	100	100	95-100	60-75	15-25	NP-10
84:												
Lizzant---------	0-10	Extremely cobbly loam.	GM-GC	A-2	5-15	45-55	40-55	35-50	30-45	25-35	25-30	5-10
	10-21	Gravelly loam--	GM-GC	A-2, A-4	0	0-5	55-65	50-60	40-50	30-40	25-30	5-10
	21-31	Very cobbly loam.	GM-GC	A-2, A-4	0	40-45	45-60	40-55	35-50	25-40	25-30	5-10
	31-60	Extremely stony loam.	GM-GC	A-2	40-50	25-30	40-55	35-50	30-45	25-35	25-30	5-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
85:												
Lodar-----------	0-3	Extremely stony loam.	GM-GC	A-2	5-10	35-50	30-40	25-35	25-35	15-25	25-30	5-10
	3-10	Very gravelly loam.	GM-GC	A-2, A-4	0-5	20-30	50-60	45-55	40-50	30-40	25-30	5-10
	10-17	Very gravelly loam.	GM-GC	A-2, A-4	0	10-15	55-65	50-60	40-55	30-45	25-30	5-10
	17	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
86:												
Lodar-----------	0-3	Extremely stony loam.	GM-GC	A-2	5-10	35-50	30-40	25-35	25-35	15-25	25-30	5-10
	3-10	Very gravelly loam.	GM-GC	A-2, A-4	0-5	20-30	50-60	45-55	40-50	30-40	25-30	5-10
	10-17	Very gravelly loam.	GM-GC	A-2, A-4	0	10-15	55-65	50-60	40-55	30-45	25-30	5-10
	17	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
Kidman----------	0-7	Fine sandy loam	ML, CL-ML, SM, SC-SM	A-4	0	0	100	100	70-85	40-55	15-25	NP-10
	7-13	Silt loam------	ML, CL-ML	A-4	0	0	100	100	80-100	65-90	15-25	NP-10
	13-34	Silt loam------	ML, CL-ML	A-4	0	0	100	100	80-100	65-90	15-25	NP-10
	34-60	Sandy loam-----	SM, SC-SM	A-2, A-4	0	0	90-100	85-100	55-70	25-40	15-25	NP-10
87:												
Lodar-----------	0-3	Extremely stony loam.	GM-GC	A-2	5-10	35-50	30-40	25-35	25-35	15-25	25-30	5-10
	3-10	Very gravelly loam.	GM-GC	A-2, A-4	0-5	20-30	50-60	45-55	40-50	30-40	25-30	5-10
	10-17	Very gravelly loam.	GM-GC	A-2, A-4	0	10-15	55-65	50-60	40-55	30-45	25-30	5-10
	17	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
Rock outcrop.												
88:												
Lonjon----------	0-2	Stony loam-----	SC-SM, CL-ML	A-4	5-15	10-20	80-85	75-85	65-75	40-55	25-30	5-10
	2-6	Very stony loam	GM-GC, SC-SM, GC, SC	A-4	10-15	10-25	65-75	60-70	50-65	35-50	25-30	5-10
	6-12	Very gravelly loam.	GM-GC, GC	A-2, A-4	0	5-10	55-65	50-60	40-55	30-45	25-30	5-10
	12-24	Very gravelly loam.	GM-GC, GC	A-2, A-4	0	10-15	55-65	50-60	40-55	30-45	25-30	5-10
	24-37	Extremely gravelly loam.	GM-GC, GC	A-2, A-1	0	15-20	35-55	30-50	30-50	20-35	25-30	5-10
	37	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
89:												
Manassa---------	0-5	Silt loam------	CL-ML, CL	A-4	0	0	100	100	90-100	70-90	25-30	5-10
	5-13	Silt loam------	CL-ML, CL	A-4	0	0	100	100	90-100	70-90	25-30	5-10
	13-27	Silt loam------	CL-ML, CL	A-4	0	0	100	100	90-100	70-90	25-30	5-10
	27-46	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-35	10-15
	46-60	Silt loam------	CL-ML, CL	A-4	0	0	100	100	90-100	70-90	25-30	5-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
90:												
Manassa---------	0-5	Silt loam------	CL-ML, CL	A-4	0	0	100	100	90-100	70-90	25-30	5-10
	5-13	Silt loam------	CL-ML, CL	A-4	0	0	100	100	90-100	70-90	25-30	5-10
	13-27	Silt loam------	CL-ML, CL	A-4	0	0	100	100	90-100	70-90	25-30	5-10
	27-46	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-35	10-15
	46-60	Silt loam------	CL-ML, CL	A-4	0	0	100	100	90-100	70-90	25-30	5-10
Mellor----------	0-6	Silt loam------	CL-ML, CL	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	6-21	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	21-60	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	25-45	10-20
91:												
Medburn---------	0-4	Sandy loam-----	SM, SC-SM	A-2	0	0	100	95-100	60-70	25-35	20-25	NP-10
	4-13	Sandy loam-----	SC-SM	A-4	0	0	95-100	90-100	55-70	25-45	20-25	5-10
	13-30	Fine sandy loam	SM, SC-SM	A-4	0	0	95-100	90-100	65-85	35-50	20-30	NP-10
	30-60	Fine sandy loam	SM, SC-SM	A-2, A-4	0	0	95-100	90-100	65-85	35-50	15-25	NP-10
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP
Escalante-------	0-19	Sandy loam-----	SM, SC-SM	A-2, A-4	0	0	100	100	65-80	30-50	15-25	NP-10
	19-33	Fine sandy loam	SC-SM, SM	A-4	0	0	100	100	70-85	40-50	15-25	NP-10
	33-44	Fine sandy loam	SM, SC-SM	A-4	0	0	100	100	70-85	35-50	15-25	NP-10
	44-46	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	20-30	5-10
	46-51	Loamy fine sand	SM, SC-SM	A-2	0	0	100	100	50-75	15-30	15-25	NP-5
	51-60	Silt loam------	CL-ML	A-4	0	0	100	100	90-100	70-90	25-30	5-10
92:												
Memmott---------	0-18	Silt loam------	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	70-90	25-35	5-15
	18-32	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-45	15-20
	32-52	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	75-95	35-45	15-25
	52-60	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	35-45	15-25
93:												
Musinia---------	0-4	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	25-30	5-10
	4-11	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	25-30	5-10
	11-22	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	25-30	5-10
	22-36	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	25-30	5-10
	36-60	Silty clay loam	CL	A-6	0	0	100	95-100	85-95	80-90	30-35	10-15
94:												
Musinia---------	0-4	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	25-30	5-10
	4-11	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	25-30	5-10
	11-22	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	25-30	5-10
	22-36	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	25-30	5-10
	36-60	Silty clay loam	CL	A-6	0	0	100	95-100	85-95	80-90	30-35	10-15
95:												
Oakcity---------	0-5	Loam-----------	CL-ML	A-4	0	0	100	100	85-95	60-75	20-30	5-10
	5-10	Clay loam------	CL	A-6	0	0	100	100	90-100	70-80	30-40	10-15
	10-15	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	10-20
	15-60	Silty clay-----	CL, CH	A-7	0	0	100	100	95-100	90-95	40-55	15-30
96:												
Oasis-----------	0-5	Loam-----------	CL-ML, SC-SM	A-4	0	0	100	95-100	80-85	45-65	25-30	5-10
	5-13	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	100	95-100	75-85	45-55	20-25	5-10
	13-24	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	100	95-100	75-85	40-55	20-25	5-10
	24-36	Very fine sandy loam.	CL-ML	A-4	0	0	100	95-100	80-85	50-65	20-25	5-10
	36-48	Very fine sandy loam.	CL-ML	A-4	0	0	100	95-100	80-85	50-65	20-25	5-10
	48-60	Fine sand------	SM	A-2	0	0	90-100	85-100	60-75	20-30	15-20	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
97:												
Pibler----------	0-7	Gravelly fine sandy loam.	SC-SM, GM-GC, GC, SC	A-4, A-2	0	5-10	65-80	60-75	55-65	30-40	25-30	5-10
	7-12	Very gravelly loam.	GM-GC, SC-SM, GC, SC	A-4, A-2	0	10-20	50-75	45-70	40-65	30-50	25-30	5-10
	12	Indurated------	---	---	0	0	0	0	0	0	---	NP
98:												
Pibler----------	0-7	Gravelly fine sandy loam.	SC-SM, GM-GC, GC, SC	A-4, A-2	0	5-10	65-80	60-75	55-65	30-40	25-30	5-10
	7-12	Very gravelly loam.	GM-GC, SC-SM, GC, SC	A-4, A-2	0	10-20	50-75	45-70	40-65	30-50	25-30	5-10
	12	Indurated------	---	---	0	0	0	0	0	0	---	NP
Pober-----------	0-3	Gravelly loam--	CL, CL-ML	A-4	0	0-15	85-90	80-85	65-80	50-70	25-30	5-10
	3-10	Very cobbly loam.	GM-GC	A-2	0	45-60	50-65	45-60	40-50	25-35	25-30	5-10
	10-23	Extremely cobbly loam, extremely gravelly loam.	GM-GC	A-2	0-5	45-60	50-65	45-60	40-50	25-35	25-30	5-10
	23-30	Very gravelly loam.	GM-GC	A-2, A-4	0-5	15-30	40-60	35-55	30-50	25-40	25-30	5-10
	30	Indurated------	---	---	0	0	0	0	0	0	---	NP
99:												
Pober-----------	0-3	Gravelly loam--	CL, CL-ML	A-4	0	0-15	85-90	80-85	65-80	50-70	25-30	5-10
	3-10	Very cobbly loam.	GM-GC	A-2	0	45-60	50-65	45-60	40-50	25-35	25-30	5-10
	10-23	Extremely cobbly loam, extremely gravelly loam.	GM-GC	A-2	0-5	45-60	50-65	45-60	40-50	25-35	25-30	5-10
	23-30	Very gravelly loam.	GM-GC	A-2, A-4	0-5	15-30	40-60	35-55	30-50	25-40	25-30	5-10
	30	Indurated------	---	---	0	0	0	0	0	0	---	NP
100:												
Pober-----------	0-6	Loamy fine sand	SM	A-2	0	0	95-100	90-100	50-75	15-30	15-20	NP-5
	6-13	Fine sandy loam	SC-SM	A-4	0	0	95-100	90-100	65-75	35-50	15-25	5-10
	13-21	Very gravelly sandy loam.	GM-GC	A-2	0-5	15-20	40-50	35-45	25-35	10-15	15-25	5-10
	21-36	Extremely cobbly loamy sand.	GM	A-1, A-2	0-10	30-50	35-45	30-40	15-30	5-10	15-20	NP-5
	36	Indurated------	---	---	0	0	0	0	0	0	---	NP
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP
101:												
Pober-----------	0-6	Loamy fine sand	SM	A-2	0	0	95-100	90-100	50-75	15-30	15-20	NP-5
	6-13	Fine sandy loam	SC-SM	A-4	0	0	95-100	90-100	65-75	35-50	15-25	5-10
	13-21	Very gravelly sandy loam.	GM-GC	A-2	0-5	15-20	40-50	35-45	25-35	10-15	15-25	5-10
	21-36	Extremely cobbly loamy sand.	GM	A-1, A-2	0-10	30-50	35-45	30-40	15-30	5-10	15-20	NP-5
	36	Indurated------	---	---	0	0	0	0	0	0	---	NP
Berent----------	0-8	Loamy fine sand	SM	A-1, A-2	0	0	95-100	90-100	45-75	15-30	0-14	NP
	8-60	Fine sand------	SM	A-1, A-2	0	0	95-100	90-100	60-80	15-35	0-14	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
102:												
Preston----------	0-18	Fine sand------	SM	A-2	0	0	100	95-100	50-75	25-35	15-20	NP-5
	18-60	Loamy fine sand	SM	A-2	0	0	100	95-100	50-75	25-35	15-20	NP-5
103:												
Probert---------	0-4	Loam-----------	CL-ML	A-4	0	0	95-100	95-100	85-95	60-75	25-30	5-10
	4-15	Clay loam------	CL	A-6	0	5-15	80-90	75-85	70-80	55-65	30-35	10-15
	15-24	Clay loam------	CL	A-6	0	5-15	80-90	75-85	70-80	55-65	30-35	10-15
	24-34	Silty clay loam	CL	A-6	0	0	90-100	85-95	75-90	65-75	30-35	10-15
	34-60	Fine sandy loam	CL-ML, SC-SM	A-4	0	0	90-100	85-95	65-75	45-55	25-30	5-10
104: Rock outcrop.												
Lodar-----------	0-3	Extremely stony loam.	GM-GC	A-2	5-10	35-50	30-40	25-35	25-35	15-25	25-30	5-10
	3-10	Very gravelly loam.	GM-GC	A-2, A-4	0-5	20-30	50-60	45-55	40-50	30-40	25-30	5-10
	10-17	Very gravelly loam.	GM-GC	A-2, A-4	0	10-15	55-65	50-60	40-55	30-45	25-30	5-10
	17	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
105: Rock outcrop.												
Shotwell--------	0-3	Very cobbly loam.	SC-SM, GM-GC, GM	A-4	0	65-75	65-75	60-70	55-65	35-50	25-35	5-10
	3-14	Loam-----------	CL-ML, ML, CL	A-4	0	5-15	90-100	90-100	75-90	55-75	25-35	5-10
	14	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP
106: Rock outcrop.												
Soma------------	0-2	Very cobbly loam.	GM-GC, SC-SM	A-4, A-2	0-10	20-40	60-75	50-70	40-60	30-50	15-25	5-10
	2-6	Very cobbly loam.	GM-GC, SC-SM	A-2, A-4	0-10	20-40	55-70	50-65	40-60	30-45	15-25	5-10
	6-18	Extremely cobbly loam.	GM-GC	A-1, A-2	0-20	45-60	30-50	20-40	20-40	15-30	15-25	5-10
	18	Unweathered bedrock.	---	---	0	0	0	0	0	0	0-14	NP
107:												
Searla----------	0-3	Gravelly silt loam.	GM-GC, CL-ML	A-4	0	10-15	65-90	55-85	45-80	40-70	20-30	5-10
	3-7	Very gravelly silt loam.	GM-GC, CL-ML	A-4	0	10-25	60-80	55-75	45-70	35-65	20-30	5-10
	7-16	Very cobbly silty clay loam.	GC	A-2, A-6	0	45-60	45-55	40-50	35-50	30-45	30-40	10-15
	16-50	Very cobbly silt loam.	GM-GC	A-2, A-4	0	25-55	50-65	45-60	40-55	30-55	20-30	5-10
	50	Unweathered bedrock.	---	---	0	0	0	0	0	0	---	NP

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
107:												
Kapod-----------	0-4	Very stony loam	GM-GC	A-2, A-4	5-10	10-25	55-65	50-60	40-55	30-45	25-35	5-10
	4-14	Very gravelly clay loam.	GC	A-6	0	5-15	50-60	45-55	45-50	35-45	35-40	10-15
	14-20	Extremely gravelly clay loam.	GC	A-2	0	15-30	30-35	25-30	20-30	15-25	35-40	10-15
	20-30	Extremely gravelly sandy loam.	GP-GC, GM-GC	A-1, A-2	0	10-25	25-35	20-30	10-20	5-15	20-25	5-10
	30-60	Extremely gravelly loam.	GM-GC	A-1, A-2	0	10-25	25-35	20-30	15-30	10-25	25-30	5-10
108:												
Spager----------	0-2	Gravelly very fine sandy loam.	SC-SM, GM-GC	A-2	0	5-10	60-70	55-65	45-50	20-35	20-25	5-10
	2-5	Very gravelly very fine sandy loam.	GM-GC	A-1, A-2	0	5-20	50-55	45-50	35-45	20-30	20-25	5-10
	5-11	Very gravelly very fine sandy loam.	GM-GC	A-1, A-2	0	5-20	50-60	45-55	40-50	20-35	20-25	5-10
	11	Indurated------	---	---	0	0	0	0	0	0	---	NP
109:												
Sterling--------	0-4	Loam-----------	CL-ML, CL	A-4	0	0	85-90	80-90	65-80	50-70	25-30	5-10
	4-11	Very gravelly loam.	GM-GC, GC	A-4, A-2	0	5-10	55-65	50-60	40-55	30-45	25-30	5-10
	11-18	Very gravelly loam.	GM-GC, GC	A-4, A-2	0	10-15	50-60	45-55	40-50	30-40	25-30	5-10
	18-29	Very gravelly loam.	GM-GC, GC	A-4, A-2	0	10-20	45-60	40-55	40-50	30-40	25-30	5-10
	29-60	Very gravelly sandy loam.	GM-GC	A-2	0	10-20	40-50	35-45	20-35	15-25	20-25	5-10
110:												
Taylorsflat-----	0-5	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	65-75	20-30	5-10
	5-20	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	65-75	20-30	5-10
	20-33	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	80-95	30-35	10-15
	33-60	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	80-95	30-35	10-15
111:												
Taylorsflat-----	0-5	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	65-75	20-30	5-10
	5-20	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	65-75	20-30	5-10
	20-33	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	80-95	30-35	10-15
	33-60	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	80-95	30-35	10-15
112:												
Thiokol---------	0-5	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	65-90	20-30	5-10
	5-13	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	65-90	20-30	5-10
	13-29	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	65-90	20-30	5-10
	29-45	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	65-90	20-30	5-10
	45-60	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	65-90	20-30	5-10
113:												
Timpie----------	0-5	Fine sandy loam	SM	A-4	0	0	95-100	90-100	65-85	35-50	20-25	NP-5
	5-11	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	11-17	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	17-35	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	35-60	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
114:												
Timpie----------	0-5	Fine sandy loam	SM	A-4	0	0	95-100	90-100	65-85	35-50	20-25	NP-5
	5-11	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	11-17	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	17-35	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	35-60	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
Uvada-----------	0-2	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	60-75	20-30	5-10
	2-7	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	7-10	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	85-95	25-35	10-15
	10-22	Silty clay-----	CL	A-6, A-7	0	0	100	100	95-100	90-95	40-45	20-25
	22-31	Silty clay-----	CL	A-6, A-7	0	0	100	100	95-100	90-95	40-45	20-25
	31-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	95	25-35	10-15
115:												
Tooele----------	0-4	Loamy fine sand	SM	A-1, A-2	0	0	100	95-100	60-75	20-30	10-20	NP-5
	4-20	Loamy fine sand	SM	A-1, A-2	0	0	100	95-100	60-75	20-30	10-20	NP-5
	20-39	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	100	95-100	70-85	40-55	20-25	5-10
	39-60	Loamy fine sand	SM	A-1, A-2	0	0	100	95-100	60-75	20-30	10-20	NP-5
116:												
Uffens----------	0-4	Loamy fine sand	SM	A-2, A-4	0	0	100	95-100	60-80	30-45	10-20	NP-5
	4-10	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	60-75	25-30	5-10
	10-16	Clay loam------	CL	A-6	0	0	100	95-100	90-100	70-80	30-35	10-15
	16-22	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	22-28	Fine sandy loam	SC-SM	A-4	0	0	100	95-100	65-75	35-55	20-30	5-10
	28-60	Fine sandy loam	SC-SM	A-4	0	0	100	95-100	65-75	35-55	20-25	5-10
117:												
Uffens----------	0-3	Silt loam------	CL-ML	A-4	0	0	100	95-100	90-100	70-90	20-30	5-10
	3-7	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	60-75	25-30	5-10
	7-13	Clay loam------	CL	A-6	0	0	100	95-100	90-100	70-80	30-35	10-15
	13-27	Loam-----------	SC-SM	A-4	0	0	100	95-100	85-95	65-70	25-30	5-10
	27-60	Loam-----------	SC-SM	A-4	0	0	100	95-100	85-95	60-75	25-30	5-10
118:												
Uvada-----------	0-4	Clay loam------	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	65-80	25-35	5-15
	4-11	Clay loam------	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	65-80	25-35	5-15
	11-20	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-95	35-50	15-25
	20-23	Silty clay-----	CL, CH	A-7	0	0	100	100	95-100	90-95	45-60	20-30
	23-43	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	25-35	10-20
	43-60	Silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
119:												
Uvada-----------	0-4	Clay loam------	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	65-80	25-35	5-15
	4-11	Clay loam------	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	65-80	25-35	5-15
	11-20	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-95	35-50	15-25
	20-23	Silty clay-----	CL, CH	A-7	0	0	100	100	95-100	90-95	45-60	20-30
	23-43	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	25-35	10-20
	43-60	Silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-95	25-35	5-15
Yenrab----------	0-5	Loamy fine sand	SC-SM, SM	A-2, A-4	0	0	95-100	90-100	60-85	25-45	15-20	NP-5
	5-60	Loamy sand, loamy fine sand, fine sand.	SC-SM, SM	A-1, A-2, A-4	0	0	95-100	90-95	45-70	15-40	15-20	NP-5

Table 17.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
120:												
Woodrow----------	0-16	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	16-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
121:												
Yenrab-----------	0-5	Loamy fine sand	SC-SM, SM	A-2, A-4	0	0	95-100	90-100	60-85	25-45	15-20	NP-5
	5-60	Loamy sand, loamy fine sand, fine sand.	SC-SM, SM	A-1, A-2, A-4	0	0	95-100	90-95	45-70	15-40	15-20	NP-5
122:												
Yenrab-----------	0-5	Loamy fine sand	SC-SM, SM	A-2, A-4	0	0	95-100	90-100	60-85	25-45	15-20	NP-5
	5-60	Loamy sand, loamy fine sand, fine sand.	SC-SM, SM	A-1, A-2, A-4	0	0	95-100	90-95	45-70	15-40	15-20	NP-5
Puddle-----------	0-4	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	90-95	65-75	35-55	20-25	5-10
	4-11	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	90-95	65-75	35-55	20-25	5-10
	11-36	Loam-----------	CL-ML	A-4	0	0	100	95-100	85-95	55-70	20-30	5-10
	36-60	Fine sandy loam	SC-SM, CL-ML	A-4	0	0	95-100	90-95	65-75	35-55	20-25	5-10
123:												
Yenrab-----------	0-5	Loamy fine sand	SC-SM, SM	A-2, A-4	0	0	95-100	90-100	60-85	25-45	15-20	NP-5
	5-60	Loamy sand, loamy fine sand, fine sand.	SC-SM, SM	A-1, A-2, A-4	0	0	95-100	90-95	45-70	15-40	15-20	NP-5
Uvada------------	0-3	Very fine sandy loam.	CL-ML	A-4	0	0	100	100	85-95	50-65	20-30	5-10
	3-23	Silty clay-----	CL, CH	A-7	0	0	100	100	95-100	90-95	45-60	20-35
	23-50	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	15-25
	50-60	Loamy fine sand	SM	A-2, A-4	0	0	100	100	75-85	25-45	15-20	NP-5

Table 18.--Physical Properties of the Soils

(Entries under "Erosion factors-T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
1:												
Amtoft----------	0-8	18-27	1.25-1.40	0.60-2.00	0.12-0.16	Low------	1.0-2.0	0.17	0.37	1	5	56
	8-19	18-27	1.15-1.40	2.00-6.00	0.08-0.12	Low------	0.5-2.0	0.05	0.43			
	19	---	---	0.01-0.02	---	---	---	---	---			
Rock outcrop.												
2:												
Amtoft----------	0-8	18-27	1.25-1.40	0.60-2.00	0.12-0.16	Low------	1.0-2.0	0.17	0.37	1	5	56
	8-19	18-27	1.15-1.40	2.00-6.00	0.08-0.12	Low------	0.5-2.0	0.05	0.43			
	19	---	---	0.01-0.02	---	---	---	---	---			
Spager----------	0-2	15-18	1.40-1.50	2.00-6.00	0.11-0.13	Low------	1.0-2.0	0.24	0.43	1	5	56
	2-5	15-18	1.40-1.50	2.00-6.00	0.09-0.11	Low------	0.5-1.0	0.15	0.43			
	5-11	12-18	1.40-1.50	2.00-6.00	0.09-0.11	Low------	0.5-1.0	0.15	0.43			
	11	---	---	0.01-0.02	---	---	---	---	---			
3:												
Ashdown---------	0-20	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-2.0	0.37	0.37	5	4L	86
	20-60	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.37	0.37			
4:												
Ashdown---------	0-20	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-2.0	0.37	0.37	5	4L	86
	20-60	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.37	0.37			
5:												
Atepic----------	0-2	27-30	1.40-1.50	0.20-0.60	0.09-0.10	Low------	1.0-2.0	0.10	0.37	2	8	0
	2-10	27-35	1.40-1.50	0.20-0.60	0.08-0.09	Low------	1.0-2.0	0.17	0.37			
	10-18	27-35	1.40-1.50	0.06-0.20	0.08-0.09	Moderate	0.0-1.0	0.20	0.32			
	18-25	---	---	0.00-0.20	---	---	---	---	---			
Rock outcrop.												
6:												
Atepic----------	0-2	27-30	1.40-1.50	0.20-0.60	0.09-0.10	Low------	1.0-2.0	0.10	0.37	2	8	0
	2-10	27-35	1.40-1.50	0.20-0.60	0.08-0.09	Low------	1.0-2.0	0.17	0.37			
	10-18	27-35	1.40-1.50	0.06-0.20	0.08-0.09	Moderate	0.0-1.0	0.20	0.32			
	18-25	---	---	0.00-0.20	---	---	---	---	---			
Sonlet----------	0-4	12-18	1.40-1.50	2.00-6.00	0.07-0.08	Low------	1.0-2.0	0.05	0.37	1	8	0
	4-10	12-18	1.40-1.50	0.60-2.00	0.09-0.10	Low------	0.5-1.0	0.15	0.37			
	10-19	12-18	1.40-1.50	0.60-2.00	0.07-0.08	Low------	0.0-0.5	0.05	0.37			
	19	---	---	0.00-0.20	---	---	---	---	---			
7:												
Bandag----------	0-7	18-27	1.30-1.50	0.60-2.00	0.15-0.17	Low------	0.0-0.5	0.43	0.43	5	4L	86
	7-60	18-27	1.30-1.50	0.60-2.00	0.15-0.17	Low------	0.0-0.2	0.43	0.43			
8:												
Bandag----------	0-7	18-27	1.30-1.50	0.60-2.00	0.15-0.17	Low------	0.0-0.5	0.43	0.43	5	4L	86
	7-60	18-27	1.30-1.50	0.60-2.00	0.15-0.17	Low------	0.0-0.2	0.43	0.43			
9:												
Bandag----------	0-7	18-27	1.30-1.50	0.60-2.00	0.15-0.17	Low------	0.0-0.5	0.43	0.43	5	4L	86
	7-60	18-27	1.30-1.50	0.60-2.00	0.15-0.17	Low------	0.0-0.2	0.43	0.43			
Berent----------	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.0-0.5	0.10	0.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Organic matter	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in		Pct					
10:												
Beckstrand------	0-8	15-18	1.30-1.40	0.60-2.00	0.14-0.16	Low------	2.0-3.0	0.37	0.37	5	4L	86
	8-17	15-18	1.30-1.40	0.60-2.00	0.14-0.16	Low------	1.0-2.0	0.37	0.37			
	17-34	10-18	1.35-1.45	0.60-2.00	0.12-0.14	Low------	0.5-1.0	0.28	0.28			
	34-60	15-18	1.30-1.40	0.60-2.00	0.13-0.15	Low------	0.5-1.0	0.37	0.37			
Benstot---------	0-8	18-27	1.25-1.35	0.60-2.00	0.14-0.16	Low------	2.0-3.0	0.37	0.37	5	4L	86
	8-16	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	16-32	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	32-60	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
11:												
Benstot---------	0-8	18-27	1.25-1.35	0.60-2.00	0.14-0.16	Low------	2.0-3.0	0.37	0.37	5	4L	86
	8-16	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	16-32	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	32-60	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
Scipio----------	0-5	18-27	1.20-1.30	0.60-2.00	0.16-0.17	Low------	2.0-4.0	0.37	0.37	5	4L	86
	5-11	18-27	1.20-1.30	0.60-2.00	0.16-0.17	Low------	2.0-4.0	0.37	0.37			
	11-21	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43			
	21-36	15-20	1.40-1.50	2.00-6.00	0.12-0.14	Low------	1.0-2.0	0.20	0.24			
	36-60	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
12:												
Bentaxle--------	0-3	18-27	1.25-1.40	0.60-2.00	0.12-0.16	Low------	1.0-2.0	0.17	0.37	1	5	56
	3-5	18-27	1.20-1.30	2.00-6.00	0.12-0.14	Low------	0.5-1.0	0.20	0.32			
	5-14	18-27	1.20-1.45	2.00-6.00	0.08-0.12	Low------	0.5-1.0	0.10	0.37			
	14-19	18-20	1.35-1.50	2.00-6.00	0.06-0.08	Low------	0.0-0.5	0.17	0.32			
	19	---	---	0.00-0.60	---	---	---	---	---			
Lodar-----------	0-3	18-27	1.30-1.40	2.00-6.00	0.07-0.08	Low------	1.0-2.0	0.05	0.37	1	8	0
	3-10	18-27	1.30-1.40	0.60-2.00	0.09-0.11	Low------	1.0-2.0	0.10	0.37			
	10-17	18-27	1.30-1.40	0.60-2.00	0.08-0.11	Low------	0.5-1.0	0.10	0.37			
	17	---	---	0.00-0.01	---	---	---	---	---			
13:												
Bentaxle--------	0-3	18-25	1.15-1.25	2.00-6.00	0.09-0.14	Low------	1.0-2.0	0.20	0.32	1	5	56
	3-5	18-27	1.20-1.30	2.00-6.00	0.12-0.14	Low------	0.5-1.0	0.20	0.32			
	5-14	18-27	1.20-1.45	2.00-6.00	0.08-0.12	Low------	0.5-1.0	0.10	0.37			
	14-19	18-20	1.35-1.50	2.00-6.00	0.06-0.08	Low------	0.0-0.5	0.17	0.32			
	19	---	---	0.00-0.60	---	---	---	---	---			
Rock outcrop.												
14:												
Berent----------	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.0-0.5	0.10	0.15			
15:												
Berent----------	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.0-0.5	0.10	0.15			
Oakcity---------	0-5	18-27	1.25-1.40	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.32	0.32	5	4L	86
	5-10	27-35	1.30-1.40	0.20-0.60	0.16-0.18	Moderate	0.0-1.0	0.32	0.32			
	10-15	27-40	1.25-1.40	0.20-0.60	0.17-0.19	Moderate	0.0-1.0	0.43	0.43			
	15-60	40-50	1.20-1.35	0.06-0.20	0.13-0.17	High-----	0.0-0.5	0.28	0.28			
Heist-----------	0-14	10-18	1.30-1.40	2.00-6.00	0.11-0.13	Low------	0.5-1.0	0.20	0.24	5	3	86
	14-60	10-15	1.40-1.50	2.00-6.00	0.10-0.12	Low------	0.5-1.0	0.20	0.24			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
16:												
Berent----------	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.0-0.5	0.10	0.15			
Taylorsflat-----	0-3	18-27	1.25-1.40	0.60-2.00	0.15-0.19	Low------	1.0-2.0	0.32	0.32	2	4L	86
	3-15	18-27	1.25-1.40	0.60-2.00	0.15-0.19	Low------	0.5-2.0	0.32	0.32			
	15-39	18-27	1.25-1.40	0.60-2.00	0.09-0.13	Low------	0.5-1.0	0.32	0.32			
	39-60	18-27	1.25-1.40	0.60-2.00	0.09-0.13	Low------	0.0-0.5	0.32	0.32			
Mellor----------	0-6	20-27	1.10-1.25	0.20-0.60	0.15-0.18	Low------	0.5-1.0	0.49	0.49	5	4L	86
	6-21	27-35	1.15-1.30	0.06-0.20	0.02-0.15	Moderate	0.5-1.0	0.43	0.43			
	21-60	27-35	1.15-1.30	0.06-0.20	0.02-0.11	Moderate	0.0-0.5	0.43	0.43			
17:												
Bonolden--------	0-7	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	2.0-3.0	0.43	0.43	5	4L	86
	7-22	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43			
	22-36	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	36-60	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.37	0.43			
18:												
Bonolden--------	0-7	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	2.0-3.0	0.43	0.43	5	4L	86
	7-22	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43			
	22-36	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	36-60	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.37	0.43			
Erda------------	0-6	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43	5	4L	86
	6-18	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	18-23	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
	23-38	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
	38-60	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
19:												
Borvant---------	0-7	12-18	1.40-1.50	0.60-2.00	0.08-0.09	Low------	1.0-2.0	0.24	0.37	1	6	48
	7-14	12-18	1.40-1.50	0.60-2.00	0.08-0.10	Low------	0.5-1.0	0.10	0.32			
	14	---	---	0.00-0.06	---	---	---	---	---			
20:												
Borvant---------	0-7	12-18	1.40-1.50	0.60-2.00	0.08-0.09	Low------	1.0-2.0	0.20	0.37	1	6	48
	7-14	12-18	1.40-1.50	0.60-2.00	0.08-0.10	Low------	0.5-1.0	0.10	0.32			
	14	---	---	0.00-0.06	---	---	---	---	---			
Jardal----------	0-4	5-18	1.35-1.50	2.00-6.00	0.11-0.14	Low------	1.0-2.0	0.32	0.55	2	5	56
	4-9	5-18	1.35-1.50	2.00-6.00	0.08-0.10	Low------	0.5-2.0	0.20	0.49			
	9-26	5-18	1.35-1.50	2.00-6.00	0.06-0.08	Low------	0.5-1.0	0.05	0.49			
	26-30	---	---	0.00-0.60	---	---	---	---	---			
21:												
Borvant---------	0-7	12-18	1.40-1.50	0.60-2.00	0.08-0.09	Low------	1.0-2.0	0.20	0.37	1	6	48
	7-14	12-18	1.40-1.50	0.60-2.00	0.08-0.10	Low------	0.5-1.0	0.10	0.32			
	14	---	---	0.00-0.06	---	---	---	---	---			
Jardal----------	0-4	5-18	1.35-1.50	2.00-6.00	0.11-0.14	Low------	1.0-2.0	0.32	0.55	2	5	56
	4-9	5-18	1.35-1.50	2.00-6.00	0.08-0.10	Low------	0.5-2.0	0.20	0.49			
	9-26	5-18	1.35-1.50	2.00-6.00	0.06-0.08	Low------	0.5-1.0	0.05	0.49			
	26-30	---	---	0.00-0.60	---	---	---	---	---			
22:												
Borvant---------	0-7	12-18	1.40-1.50	0.60-2.00	0.08-0.09	Low------	1.0-2.0	0.20	0.37	1	6	48
	7-14	12-18	1.40-1.50	0.60-2.00	0.08-0.10	Low------	0.5-1.0	0.10	0.32			
	14	---	---	0.00-0.06	---	---	---	---	---			
Pavant----------	0-4	18-27	1.25-1.35	0.60-2.00	0.13-0.15	Low------	1.0-2.0	0.37	0.37	1	4L	86
	4-11	18-27	1.25-1.35	0.60-2.00	0.12-0.15	Low------	0.5-1.0	0.37	0.37			
	11-17	18-27	1.25-1.35	0.60-2.00	0.10-0.12	Low------	0.5-1.0	0.32	0.37			
	17	---	---	0.01-0.02	---	---	---	---	---			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
23:												
Boxelder--------	0-5	18-27	1.25-1.30	0.60-2.00	0.17-0.18	Low------	1.0-2.0	0.37	0.37	3	4L	86
	5-18	18-27	1.25-1.35	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.32	0.32			
	18-27	18-27	1.25-1.35	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.32	0.32			
	27-60	18-27	1.25-1.35	0.20-2.00	0.15-0.17	Low------	0.0-0.5	0.43	0.43			
24:												
Boxelder--------	0-5	18-27	1.25-1.30	0.60-2.00	0.17-0.18	Low------	1.0-2.0	0.37	0.37	3	4L	86
	5-18	18-27	1.25-1.35	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.32	0.32			
	18-27	18-27	1.25-1.35	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.32	0.32			
	27-60	18-27	1.25-1.35	0.20-2.00	0.15-0.17	Low------	0.0-0.5	0.43	0.43			
25:												
Calita----------	0-8	16-20	1.25-1.35	0.60-2.00	0.16-0.17	Low------	1.0-3.0	0.49	0.49	5	3	86
	8-16	18-27	1.20-1.30	0.60-2.00	0.16-0.17	Low------	1.0-2.0	0.37	0.37			
	16-60	18-27	1.20-1.30	0.60-2.00	0.14-0.16	Low------	0.5-2.0	0.24	0.32			
Erda------------	0-6	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43	5	4L	86
	6-18	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	18-23	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
	23-38	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
	38-60	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
26:												
Calita----------	0-8	16-20	1.25-1.35	0.60-2.00	0.16-0.17	Low------	1.0-3.0	0.49	0.49	5	3	86
	8-16	18-27	1.20-1.30	0.60-2.00	0.16-0.17	Low------	1.0-2.0	0.37	0.37			
	16-60	18-27	1.20-1.30	0.60-2.00	0.14-0.16	Low------	0.5-2.0	0.24	0.32			
Erda------------	0-6	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43	5	4L	86
	6-18	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	18-23	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
	23-38	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
	38-60	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
27:												
Cessna----------	0-3	18-27	1.30-1.40	0.60-2.00	0.16-0.17	Low------	1.0-2.0	0.37	0.37	5	4L	86
	3-10	18-27	1.30-1.40	0.60-2.00	0.16-0.17	Low------	1.0-2.0	0.37	0.37			
	10-27	18-27	1.30-1.40	0.60-2.00	0.16-0.17	Low------	0.5-1.0	0.37	0.37			
	27-60	18-27	1.30-1.40	0.60-2.00	0.16-0.17	Low------	0.5-1.0	0.37	0.37			
28:												
Checkett--------	0-4	10-18	1.25-1.40	0.60-2.00	0.07-0.11	Low------	1.0-3.0	0.05	0.37	1	8	0
	4-8	18-27	1.25-1.40	0.60-2.00	0.09-0.13	Low------	1.0-2.0	0.10	0.32			
	8-16	27-35	1.25-1.40	0.60-2.00	0.08-0.12	Moderate	0.5-2.0	0.10	0.32			
	16	---	---	0.01-0.02	---	---	---	---	---			
Amtoft----------	0-8	18-27	1.25-1.40	0.60-2.00	0.12-0.16	Low------	1.0-2.0	0.17	0.37	1	5	56
	8-19	18-27	1.15-1.40	2.00-6.00	0.08-0.12	Low------	0.5-2.0	0.05	0.43			
	19	---	---	0.01-0.02	---	---	---	---	---			
29:												
Church Springs--	0-4	18-27	1.20-1.40	0.60-2.00	0.16-0.18	Low------	2.0-3.0	0.43	0.43	2	4L	86
	4-10	18-27	1.20-1.40	0.60-2.00	0.16-0.18	Low------	2.0-3.0	0.43	0.43			
	10-17	27-35	1.20-1.30	0.20-0.60	0.16-0.18	Moderate	1.0-2.0	0.37	0.37			
	17-27	27-35	1.20-1.30	0.20-0.60	0.16-0.18	Moderate	0.5-1.0	0.37	0.37			
	27-38	27-35	1.20-1.30	0.20-0.60	0.16-0.18	Moderate	0.5-1.0	0.37	0.37			
	38-60	27-35	1.20-1.30	0.20-0.60	0.16-0.18	Moderate	0.5-1.0	0.37	0.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
30:												
Cloyd-----------	0-3	18-27	1.30-1.40	0.60-2.00	0.13-0.14	Low------	1.0-2.0	0.20	0.37	1	5	56
	3-7	18-27	1.30-1.40	0.60-2.00	0.12-0.13	Low------	0.5-1.0	0.20	0.37			
	7-15	18-27	1.30-1.40	0.60-2.00	0.12-0.13	Low------	0.5-1.0	0.20	0.37			
	15	---	---	0.01-0.02	---	---	---	---	---			
Rock outcrop.												
31:												
Collard---------	0-9	18-27	1.25-1.35	0.60-2.00	0.12-0.14	Low------	2.0-3.0	0.20	0.32	3	6	48
	9-17	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Low------	1.0-2.0	0.15	0.32			
	17-28	12-18	1.30-1.40	2.00-6.00	0.06-0.08	Low------	0.5-1.0	0.10	0.20			
	28-60	5-10	1.40-1.50	6.00-20.00	0.03-0.04	Low------	0.5-1.0	0.05	0.15			
32:												
Curdli----------	0-10	10-18	1.30-1.40	0.60-2.00	0.12-0.15	Low------	1.0-2.0	0.37	0.37	2	4L	86
	10-15	12-18	1.30-1.40	0.60-2.00	0.12-0.15	Low------	0.5-1.0	0.37	0.37			
	15-28	18-27	1.20-1.30	0.60-2.00	0.12-0.15	Low------	0.5-1.0	0.43	0.43			
	28-37	18-27	1.20-1.30	0.60-2.00	0.10-0.13	Low------	0.0-0.5	0.43	0.43			
	37-48	18-27	1.20-1.30	0.60-2.00	0.10-0.12	Low------	0.0-0.5	0.43	0.43			
	48-60	18-27	1.20-1.30	0.60-2.00	0.11-0.13	Low------	0.0-0.5	0.43	0.43			
33:												
Current Spring--	0-5	18-27	1.25-1.35	0.60-2.00	0.12-0.13	Low------	1.0-3.0	0.20	0.37	5	5	56
	5-13	27-35	1.20-1.30	0.20-0.60	0.13-0.14	Low------	1.0-3.0	0.20	0.37			
	13-24	35-40	1.20-1.30	0.20-0.60	0.11-0.12	Moderate	1.0-2.0	0.10	0.37			
	24-41	40-50	1.15-1.25	0.06-0.20	0.07-0.08	High-----	0.5-1.0	0.10	0.32			
	41-60	40-50	1.15-1.25	0.06-0.20	0.07-0.09	Moderate	0.5-1.0	0.10	0.37			
34:												
Current Spring--	0-5	18-27	1.25-1.35	0.60-2.00	0.12-0.13	Low------	1.0-3.0	0.20	0.37	5	5	56
	5-13	27-35	1.20-1.30	0.20-0.60	0.13-0.14	Low------	1.0-3.0	0.20	0.37			
	13-24	35-40	1.20-1.30	0.20-0.60	0.11-0.12	Moderate	1.0-2.0	0.10	0.37			
	24-41	40-50	1.15-1.25	0.06-0.20	0.07-0.08	High-----	0.5-1.0	0.10	0.32			
	41-60	40-50	1.15-1.25	0.06-0.20	0.07-0.09	Moderate	0.5-1.0	0.10	0.37			
Maple Hollow----	0-2	18-27	1.20-1.30	0.60-2.00	0.15-0.17	Low------	2.0-3.0	0.32	0.37	5	6	48
	2-8	27-35	1.20-1.30	0.60-2.00	0.15-0.17	Low------	1.0-3.0	0.32	0.37			
	8-16	27-35	1.10-1.20	0.20-0.60	0.17-0.18	Moderate	1.0-2.0	0.32	0.37			
	16-44	35-50	1.10-1.20	0.06-0.20	0.18-0.19	High-----	0.5-1.0	0.24	0.32			
	44-60	18-27	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.0-0.5	0.24	0.37			
35:												
Current Spring--	0-5	18-27	1.25-1.35	0.60-2.00	0.12-0.13	Low------	1.0-3.0	0.20	0.37	5	5	56
	5-13	27-35	1.20-1.30	0.20-0.60	0.13-0.14	Low------	1.0-3.0	0.20	0.37			
	13-24	35-40	1.20-1.30	0.20-0.60	0.11-0.12	Moderate	1.0-2.0	0.10	0.37			
	24-41	40-50	1.15-1.25	0.06-0.20	0.07-0.08	High-----	0.5-1.0	0.10	0.32			
	41-60	40-50	1.15-1.25	0.06-0.20	0.07-0.09	Moderate	0.5-1.0	0.10	0.37			
Maple Hollow----	0-2	18-27	1.20-1.30	0.60-2.00	0.15-0.17	Low------	2.0-3.0	0.32	0.37	5	6	48
	2-8	27-35	1.20-1.30	0.60-2.00	0.15-0.17	Low------	1.0-3.0	0.32	0.37			
	8-16	27-35	1.10-1.20	0.20-0.60	0.17-0.18	Moderate	1.0-2.0	0.32	0.37			
	16-44	35-50	1.10-1.20	0.06-0.20	0.18-0.19	High-----	0.5-1.0	0.24	0.32			
	44-60	18-27	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.0-0.5	0.24	0.37			
36:												
Deseret---------	0-4	18-27	1.25-1.35	0.20-0.60	0.09-0.16	Low------	0.5-1.0	0.55	0.55	5	4L	86
	4-24	18-27	1.25-1.35	0.20-0.60	0.09-0.16	Low------	0.5-1.0	0.55	0.55			
	24-60	27-35	1.30-1.40	0.20-0.60	0.09-0.16	Moderate	0.0-0.5	0.43	0.43			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
37:												
Donnardo--------	0-8	15-18	1.40-1.50	0.60-2.00	0.08-0.11	Low------	1.0-3.0	0.10	0.37	2	6	48
	8-24	18-22	1.40-1.50	0.60-2.00	0.08-0.11	Low------	0.5-2.0	0.10	0.32			
	24-35	18-22	1.45-1.60	2.00-6.00	0.04-0.06	Low------	0.5-1.0	0.02	0.17			
	35-60	18-22	1.40-1.50	0.60-2.00	0.08-0.10	Low------	0.5-1.0	0.10	0.32			
38:												
Donnardo--------	0-11	15-18	1.50-1.60	2.00-6.00	0.08-0.10	Low------	1.0-3.0	0.15	0.24	2	5	56
	11-21	15-18	1.50-1.60	2.00-6.00	0.08-0.10	Low------	0.5-2.0	0.15	0.24			
	21-60	20-27	1.30-1.40	0.60-2.00	0.08-0.11	Low------	0.5-1.0	0.10	0.32			
Borvant---------	0-7	12-18	1.40-1.50	0.60-2.00	0.08-0.09	Low------	1.0-2.0	0.20	0.37	1	6	48
	7-14	12-18	1.40-1.50	0.60-2.00	0.08-0.10	Low------	0.5-1.0	0.10	0.32			
	14	---	---	0.00-0.06	---	---	---	---	---			
Collard---------	0-9	18-27	1.25-1.35	0.60-2.00	0.12-0.14	Low------	2.0-3.0	0.20	0.32	3	6	48
	9-17	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Low------	1.0-2.0	0.15	0.32			
	17-28	12-18	1.30-1.40	6.00-20.00	0.06-0.08	Low------	0.5-1.0	0.10	0.20			
	28-60	5-10	1.40-1.50	6.00-20.00	0.03-0.04	Low------	0.5-1.0	0.05	0.15			
39:												
Donnardo--------	0-8	15-18	1.40-1.50	0.60-2.00	0.08-0.11	Low------	1.0-3.0	0.10	0.37	2	6	48
	8-24	18-22	1.40-1.50	0.60-2.00	0.08-0.11	Low------	0.5-2.0	0.10	0.32			
	24-35	18-22	1.45-1.60	2.00-6.00	0.04-0.06	Low------	0.5-1.0	0.02	0.17			
	35-60	18-22	1.40-1.50	0.60-2.00	0.08-0.10	Low------	0.5-1.0	0.10	0.32			
Kapod-----------	0-4	18-27	1.30-1.40	0.60-2.00	0.09-0.11	Low------	1.0-3.0	0.10	0.37	5	8	0
	4-14	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.10	0.37			
	14-20	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.10	0.37			
	20-30	10-18	1.40-1.50	2.00-6.00	0.06-0.08	Low------	0.5-1.0	0.02	0.24			
	30-60	18-27	1.30-1.40	2.00-6.00	0.07-0.09	Low------	0.0-0.5	0.05	0.37			
40:												
Dune land.												
41:												
Erda------------	0-6	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43	5	4L	86
	6-18	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	18-23	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
	23-38	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
	38-60	18-27	1.20-1.30	0.20-0.60	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
42:												
Escalante-------	0-19	10-18	1.35-1.50	0.60-2.00	0.09-0.11	Low------	0.5-1.0	0.28	0.28	3	3	86
	19-33	10-18	1.35-1.50	0.60-2.00	0.09-0.12	Low------	0.5-1.0	0.24	0.24			
	33-44	10-18	1.30-1.50	0.60-2.00	0.11-0.14	Low------	0.5-1.0	0.28	0.28			
	44-46	15-25	1.30-1.40	0.60-2.00	0.13-0.16	Low------	0.0-0.5	0.49	0.49			
	46-51	10-15	1.35-1.50	6.00-20.00	0.08-0.09	Low------	0.0-0.5	0.24	0.24			
	51-60	18-27	1.30-1.40	0.60-2.00	0.16-0.18	Low------	0.0-0.5	0.37	0.37			
43:												
Escalante-------	0-19	10-18	1.35-1.50	0.60-2.00	0.09-0.11	Low------	0.5-1.0	0.28	0.28	3	3	86
	19-33	10-18	1.35-1.50	0.60-2.00	0.09-0.12	Low------	0.5-1.0	0.24	0.24			
	33-44	10-18	1.30-1.50	0.60-2.00	0.11-0.14	Low------	0.5-1.0	0.28	0.28			
	44-46	15-25	1.30-1.40	0.60-2.00	0.13-0.16	Low------	0.0-0.5	0.49	0.49			
	46-51	10-15	1.35-1.50	6.00-20.00	0.08-0.09	Low------	0.0-0.5	0.24	0.24			
	51-60	18-27	1.30-1.40	0.60-2.00	0.16-0.18	Low------	0.0-0.5	0.37	0.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
44:												
Escalante-------	0-10	10-15	1.50-1.60	2.00-6.00	0.06-0.08	Low------	1.0-3.0	0.10	0.24	5	6	48
	10-27	10-15	1.50-1.60	2.00-6.00	0.08-0.09	Low------	0.5-1.0	0.15	0.24			
	27-60	10-15	1.50-1.60	2.00-6.00	0.09-0.11	Low------	0.5-1.0	0.20	0.20			
Berent----------	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.0-0.5	0.10	0.15			
Escalante-------	0-5	5-15	1.30-1.50	2.00-6.00	0.10-0.12	Low------	0.5-1.0	0.32	0.32	5	3	86
	5-14	5-15	1.30-1.50	2.00-6.00	0.10-0.12	Low------	0.5-1.0	0.32	0.32			
	14-20	5-15	1.30-1.50	2.00-6.00	0.10-0.12	Low------	0.0-0.5	0.32	0.32			
	20-44	5-15	1.30-1.50	2.00-6.00	0.10-0.12	Low------	0.0-0.5	0.32	0.32			
	44-60	5-15	1.30-1.50	2.00-6.00	0.08-0.09	Low------	0.0-0.5	0.24	0.28			
45:												
Firmage---------	0-3	18-27	1.35-1.45	0.60-2.00	0.15-0.17	Low------	1.0-2.0	0.32	0.37	3	4L	86
	3-16	27-35	1.35-1.45	0.20-0.60	0.16-0.18	Moderate	0.5-2.0	0.32	0.32			
	16-25	18-27	1.35-1.45	0.60-2.00	0.13-0.16	Moderate	0.5-1.0	0.17	0.32			
	25-43	18-27	1.30-1.40	0.60-2.00	0.11-0.14	Moderate	0.5-1.0	0.17	0.32			
	43-60	20-35	1.30-1.40	0.60-2.00	0.08-0.10	Low------	0.5-1.0	0.10	0.24			
46:												
Firmage---------	0-3	18-27	1.35-1.45	0.60-2.00	0.15-0.17	Low------	1.0-2.0	0.32	0.37	3	4L	86
	3-16	27-35	1.35-1.45	0.20-0.60	0.16-0.18	Moderate	0.5-2.0	0.32	0.32			
	16-25	18-27	1.35-1.45	0.60-2.00	0.13-0.16	Moderate	0.5-1.0	0.17	0.32			
	25-43	18-27	1.30-1.40	0.60-2.00	0.11-0.14	Moderate	0.5-1.0	0.17	0.32			
	43-60	20-35	1.30-1.40	0.60-2.00	0.08-0.10	Low------	0.5-1.0	0.10	0.24			
Hiko Peak-------	0-9	10-18	1.30-1.40	2.00-6.00	0.08-0.10	Low------	1.0-2.0	0.15	0.24	5	5	56
	9-49	10-18	1.20-1.40	2.00-6.00	0.07-0.09	Low------	0.5-2.0	0.10	0.20			
	49-60	10-18	1.30-1.40	2.00-6.00	0.07-0.09	Low------	0.0-0.5	0.10	0.20			
47:												
Freedom---------	0-5	18-27	1.15-1.25	0.60-2.00	0.17-0.18	Low------	1.0-2.0	0.43	0.43	5	4L	86
	5-12	18-27	1.15-1.30	0.60-2.00	0.17-0.18	Low------	1.0-2.0	0.43	0.43			
	12-26	18-27	1.15-1.25	0.60-2.00	0.17-0.18	Low------	0.5-2.0	0.43	0.43			
	26-60	18-35	1.15-1.30	0.20-0.60	0.17-0.18	Moderate	0.5-1.0	0.37	0.37			
48:												
Freedom---------	0-5	18-27	1.15-1.25	0.60-2.00	0.17-0.18	Low------	1.0-2.0	0.43	0.43	5	4L	86
	5-12	18-27	1.15-1.30	0.60-2.00	0.17-0.18	Low------	1.0-2.0	0.43	0.43			
	12-26	18-27	1.15-1.25	0.60-2.00	0.17-0.18	Low------	0.5-2.0	0.43	0.43			
	26-60	18-35	1.15-1.30	0.20-0.60	0.17-0.18	Moderate	0.5-1.0	0.37	0.37			
49:												
Genola----------	0-3	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43	5	4L	86
	3-11	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	11-60	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
50:												
Genola----------	0-3	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43	5	4L	86
	3-11	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	11-60	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.43	0.43			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
51:												
Green River-----	0-3	10-18	1.25-1.35	0.60-2.00	0.15-0.18	Low------	1.0-3.0	0.32	0.37	5	4L	86
	3-9	12-18	1.25-1.35	0.60-2.00	0.15-0.18	Low------	1.0-2.0	0.32	0.37			
	9-18	10-18	1.40-1.50	0.60-2.00	0.10-0.12	Low------	0.5-1.0	0.20	0.28			
	18-60	10-18	1.40-1.50	0.60-2.00	0.07-0.10	Low------	0.0-0.5	0.20	0.28			
Poganeab--------	0-4	18-27	1.25-1.35	0.60-2.00	0.15-0.18	Low------	1.0-3.0	0.32	0.37	5	4L	86
	4-9	18-27	1.25-1.35	0.60-2.00	0.15-0.17	Low------	1.0-3.0	0.32	0.37			
	9-48	27-35	1.10-1.25	0.06-0.20	0.17-0.18	Moderate	0.5-1.0	0.32	0.37			
	48-60	10-18	1.35-1.50	0.60-2.00	0.10-0.12	Low------	0.0-0.5	0.20	0.24			
52:												
Heist-----------	0-14	10-18	1.30-1.40	2.00-6.00	0.11-0.13	Low------	0.5-1.0	0.20	0.24	5	3	86
	14-60	10-15	1.40-1.50	2.00-6.00	0.10-0.12	Low------	0.5-1.0	0.20	0.24			
53:												
Heist-----------	0-14	10-18	1.30-1.40	2.00-6.00	0.11-0.13	Low------	0.5-1.0	0.20	0.24	5	3	86
	14-60	10-15	1.40-1.50	2.00-6.00	0.10-0.12	Low------	0.5-1.0	0.20	0.24			
54:												
Heist-----------	0-23	5-10	1.50-1.60	2.00-6.00	0.10-0.12	Low------	0.5-1.0	0.28	0.28	4	3	86
	23-47	7-12	1.50-1.60	2.00-6.00	0.09-0.11	Low------	0.5-1.0	0.20	0.43			
	47-57	3-7	1.50-1.60	2.00-6.00	0.06-0.07	Low------	0.5-1.0	0.05	0.24			
	57-60	3-7	1.50-1.60	2.00-6.00	0.09-0.10	Low------	0.5-1.0	0.20	0.24			
Berent----------	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.0-0.5	0.10	0.15			
55:												
Heist-----------	0-23	5-10	1.50-1.60	2.00-6.00	0.10-0.12	Low------	0.5-1.0	0.28	0.28	4	3	86
	23-47	7-12	1.50-1.60	2.00-6.00	0.09-0.11	Low------	0.5-1.0	0.20	0.43			
	47-57	3-7	1.50-1.60	2.00-6.00	0.06-0.07	Low------	0.5-1.0	0.05	0.24			
	57-60	3-7	1.50-1.60	2.00-6.00	0.09-0.10	Low------	0.5-1.0	0.20	0.24			
Linoyer---------	0-3	12-18	1.20-1.30	0.60-2.00	0.15-0.17	Low------	1.0-2.0	0.37	0.37	5	4L	86
	3-9	12-18	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.37	0.37			
	9-52	12-18	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
	52-60	12-18	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.0-0.5	0.43	0.43			
56:												
Hiko Peak-------	0-10	18-22	1.40-1.45	2.00-6.00	0.07-0.08	Low------	1.0-2.0	0.05	0.37	5	7	38
	10-22	18-22	1.40-1.45	2.00-6.00	0.08-0.09	Low------	0.5-1.0	0.05	0.32			
	22-40	14-18	1.50-1.60	2.00-6.00	0.04-0.06	Low------	0.5-1.0	0.05	0.20			
	40-60	18-22	1.40-1.45	2.00-6.00	0.07-0.09	Low------	0.5-1.0	0.05	0.32			
57:												
Hiko Peak-------	0-3	10-18	1.30-1.40	0.60-2.00	0.10-0.12	Low------	1.0-3.0	0.28	0.28	3	3	86
	3-16	15-18	1.25-1.30	0.60-2.00	0.09-0.11	Low------	1.0-2.0	0.15	0.28			
	16-29	10-18	1.40-1.50	2.00-6.00	0.07-0.09	Low------	0.5-1.0	0.10	0.20			
	29-43	10-18	1.40-1.50	2.00-6.00	0.07-0.09	Low------	0.5-1.0	0.10	0.20			
	43-49	8-10	1.50-1.60	6.00-20.00	0.04-0.06	Low------	0.0-0.5	0.02	0.10			
	49-60	5-10	1.50-1.60	6.00-20.00	0.03-0.05	Low------	0.0-0.5	0.02	0.10			
58:												
Hiko Peak-------	0-4	14-18	1.40-1.50	0.60-2.00	0.11-0.12	Low------	1.0-2.0	0.24	0.37	5	5	56
	4-13	16-18	1.40-1.50	0.60-2.00	0.13-0.14	Low------	1.0-2.0	0.24	0.37			
	13-27	14-18	1.40-1.50	2.00-6.00	0.09-0.10	Low------	0.5-1.0	0.10	0.32			
	27-37	14-18	1.40-1.50	2.00-6.00	0.07-0.08	Low------	0.5-1.0	0.05	0.32			
	37-60	8-12	1.50-1.60	2.00-6.00	0.07-0.08	Low------	0.0-0.5	0.05	0.28			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
59:												
Hiko Peak-------	0-4	12-18	1.30-1.40	0.60-2.00	0.12-0.14	Low------	1.0-2.0	0.20	0.37	5	5	56
	4-13	12-18	1.30-1.40	2.00-6.00	0.12-0.14	Low------	0.5-1.0	0.20	0.37			
	13-20	12-18	1.30-1.40	2.00-6.00	0.09-0.12	Low------	0.5-1.0	0.10	0.32			
	20-30	12-18	1.30-1.40	2.00-6.00	0.09-0.12	Low------	0.0-0.5	0.10	0.32			
	30-60	10-18	1.40-1.50	2.00-6.00	0.06-0.10	Low------	0.0-0.5	0.05	0.24			
60:												
Hiko Peak-------	0-9	10-18	1.30-1.40	2.00-6.00	0.08-0.10	Low------	1.0-2.0	0.15	0.24	5	5	56
	9-49	10-18	1.20-1.40	2.00-6.00	0.07-0.09	Low------	0.5-2.0	0.10	0.20			
	49-60	10-18	1.30-1.40	2.00-6.00	0.07-0.09	Low------	0.0-0.5	0.10	0.20			
61:												
Hiko Peak-------	0-9	10-18	1.30-1.40	2.00-6.00	0.08-0.10	Low------	1.0-2.0	0.15	0.24	5	5	56
	9-49	10-18	1.20-1.40	2.00-6.00	0.07-0.09	Low------	0.5-2.0	0.10	0.20			
	49-60	10-18	1.30-1.40	2.00-6.00	0.07-0.09	Low------	0.0-0.5	0.10	0.20			
Amtoft----------	0-8	18-27	1.25-1.40	0.60-2.00	0.12-0.16	Low------	1.0-2.0	0.17	0.37	1	5	56
	8-19	18-27	1.15-1.40	2.00-6.00	0.08-0.12	Low------	0.5-2.0	0.05	0.43			
	19	---	---	0.01-0.02	---	---	---	---	---			
62:												
Hiko Peak-------	0-4	12-18	1.30-1.40	0.60-2.00	0.12-0.14	Low------	1.0-2.0	0.20	0.37	5	5	56
	4-13	12-18	1.30-1.40	2.00-6.00	0.12-0.14	Low------	0.5-1.0	0.20	0.37			
	13-20	12-18	1.30-1.40	2.00-6.00	0.09-0.12	Low------	0.5-1.0	0.10	0.32			
	20-30	12-18	1.30-1.40	2.00-6.00	0.09-0.12	Low------	0.0-0.5	0.10	0.32			
	30-60	10-18	1.40-1.50	2.00-6.00	0.06-0.10	Low------	0.0-0.5	0.05	0.24			
Heist-----------	0-4	8-18	1.30-1.45	2.00-6.00	0.11-0.13	Low------	0.5-1.0	0.24	0.24	5	3	86
	4-36	5-18	1.30-1.45	2.00-6.00	0.11-0.13	Low------	0.0-0.5	0.28	0.28			
	36-60	5-18	1.30-1.45	2.00-6.00	0.08-0.10	Low------	0.0-0.5	0.17	0.20			
63:												
Hiko Peak-------	0-3	10-18	1.30-1.40	0.60-2.00	0.10-0.12	Low------	1.0-3.0	0.28	0.28	3	3	86
	3-16	15-18	1.25-1.30	0.60-2.00	0.09-0.11	Low------	1.0-2.0	0.15	0.28			
	16-29	10-18	1.40-1.50	2.00-6.00	0.07-0.09	Low------	0.5-1.0	0.10	0.20			
	29-43	10-18	1.40-1.50	2.00-6.00	0.07-0.09	Low------	0.5-1.0	0.10	0.20			
	43-49	8-10	1.50-1.60	6.00-20.00	0.04-0.06	Low------	0.0-0.5	0.02	0.10			
	49-60	5-10	1.50-1.60	6.00-20.00	0.03-0.05	Low------	0.0-0.5	0.02	0.10			
Heist-----------	0-14	10-18	1.30-1.40	2.00-6.00	0.11-0.13	Low------	0.5-1.0	0.20	0.24	5	3	86
	14-60	10-15	1.40-1.50	2.00-6.00	0.10-0.12	Low------	0.5-1.0	0.20	0.24			
64:												
Hiko Peak-------	0-3	10-18	1.30-1.40	0.60-2.00	0.10-0.12	Low------	1.0-3.0	0.28	0.28	3	3	86
	3-16	15-18	1.25-1.30	0.60-2.00	0.09-0.11	Low------	1.0-2.0	0.15	0.28			
	16-29	10-18	1.40-1.50	2.00-6.00	0.07-0.09	Low------	0.5-1.0	0.10	0.20			
	29-43	10-18	1.40-1.50	2.00-6.00	0.07-0.09	Low------	0.5-1.0	0.10	0.20			
	43-49	8-10	1.50-1.60	6.00-20.00	0.04-0.06	Low------	0.0-0.5	0.02	0.10			
	49-60	5-10	1.50-1.60	6.00-20.00	0.03-0.05	Low------	0.0-0.5	0.02	0.10			
Heist-----------	0-14	10-18	1.30-1.40	2.00-6.00	0.11-0.13	Low------	0.5-1.0	0.20	0.24	5	3	86
	14-60	10-15	1.40-1.50	2.00-6.00	0.10-0.12	Low------	0.5-1.0	0.20	0.24			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
65:												
Hiko Peak-------	0-4	15-18	1.30-1.40	0.60-2.00	0.11-0.12	Low------	1.0-2.0	0.24	0.37	5	5	56
	4-8	12-18	1.30-1.40	2.00-6.00	0.09-0.11	Low------	1.0-2.0	0.17	0.37			
	8-18	10-18	1.40-1.50	2.00-6.00	0.06-0.08	Low------	0.5-1.0	0.05	0.24			
	18-60	10-18	1.40-1.50	2.00-6.00	0.06-0.08	Low------	0.0-0.5	0.05	0.24			
Pibler----------	0-7	15-20	1.30-1.40	2.00-6.00	0.11-0.12	Low------	1.0-2.0	0.15	0.28	1	5	56
	7-12	15-27	1.20-1.30	2.00-6.00	0.08-0.10	Low------	0.5-1.0	0.10	0.32			
	12	---	---	0.01-0.06	---	---	---	---	---			
66:												
Jardal----------	0-4	5-18	1.35-1.50	2.00-6.00	0.11-0.14	Low------	1.0-2.0	0.32	0.55	2	5	56
	4-9	5-18	1.35-1.50	2.00-6.00	0.08-0.10	Low------	0.5-2.0	0.20	0.49			
	9-26	5-18	1.35-1.50	2.00-6.00	0.06-0.08	Low------	0.5-1.0	0.05	0.49			
	26-30	---	---	0.00-0.60	---	---	---	---	---			
Donnardo--------	0-11	15-18	1.50-1.60	2.00-6.00	0.08-0.10	Low------	1.0-3.0	0.15	0.24	2	5	56
	11-21	15-18	1.50-1.60	2.00-6.00	0.08-0.10	Low------	0.5-2.0	0.15	0.24			
	21-60	20-27	1.30-1.40	0.60-2.00	0.08-0.11	Low------	0.5-1.0	0.10	0.32			
67:												
Jigsaw----------	0-4	18-27	1.20-1.30	0.60-2.00	0.17-0.18	Low------	1.0-2.0	0.43	0.43	5	4L	86
	4-9	18-27	1.20-1.30	0.60-2.00	0.17-0.18	Low------	1.0-2.0	0.43	0.43			
	9-32	27-35	1.10-1.20	0.06-0.20	0.17-0.18	Moderate	0.5-1.0	0.37	0.37			
	32-60	27-35	1.10-1.20	0.06-0.20	0.17-0.18	Moderate	0.0-0.5	0.32	0.37			
68:												
Jigsaw----------	0-4	18-27	1.20-1.30	0.60-2.00	0.17-0.18	Low------	1.0-2.0	0.43	0.43	5	4L	86
	4-9	18-27	1.20-1.30	0.60-2.00	0.17-0.18	Low------	1.0-2.0	0.43	0.43			
	9-32	27-35	1.10-1.20	0.06-0.20	0.17-0.18	Moderate	0.5-1.0	0.37	0.37			
	32-60	27-35	1.10-1.20	0.06-0.20	0.17-0.18	Moderate	0.0-0.5	0.32	0.37			
Oakcity---------	0-5	18-27	1.25-1.40	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.32	0.32	5	4L	86
	5-10	27-35	1.30-1.40	0.20-0.60	0.16-0.18	Moderate	0.0-1.0	0.32	0.32			
	10-15	27-40	1.25-1.40	0.20-0.60	0.17-0.19	Moderate	0.0-1.0	0.43	0.43			
	15-60	40-50	1.20-1.35	0.06-0.20	0.13-0.17	High-----	0.0-0.5	0.28	0.28			
69:												
Kanosh----------	0-4	10-18	1.30-1.40	2.00-6.00	0.08-0.12	Low------	1.0-2.0	0.43	0.43	3	3	86
	4-19	10-18	1.40-1.50	2.00-6.00	0.08-0.11	Low------	0.5-1.0	0.28	0.28			
	19-30	10-18	1.40-1.50	2.00-6.00	0.02-0.07	Low------	0.5-1.0	0.28	0.28			
	30-38	10-18	1.40-1.50	2.00-6.00	0.02-0.07	Low------	0.0-0.5	0.28	0.28			
	38-60	10-18	1.40-1.50	2.00-6.00	0.02-0.07	Low------	0.0-0.5	0.28	0.28			
70:												
Kapod-----------	0-4	18-27	1.30-1.40	0.60-2.00	0.09-0.11	Low------	1.0-3.0	0.10	0.37	5	8	0
	4-14	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.10	0.37			
	14-20	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.10	0.37			
	20-30	10-18	1.40-1.50	2.00-6.00	0.06-0.08	Low------	0.5-1.0	0.02	0.24			
	30-60	18-27	1.30-1.40	2.00-6.00	0.07-0.09	Low------	0.0-0.5	0.05	0.37			
71:												
Kapod-----------	0-4	18-27	1.30-1.40	0.60-2.00	0.09-0.11	Low------	1.0-3.0	0.10	0.37	5	8	0
	4-14	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.10	0.37			
	14-20	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.10	0.37			
	20-30	10-18	1.40-1.50	2.00-6.00	0.06-0.08	Low------	0.5-1.0	0.02	0.24			
	30-60	18-27	1.30-1.40	2.00-6.00	0.07-0.09	Low------	0.0-0.5	0.05	0.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
71:												
Collard---------	0-8	18-27	1.30-1.40	0.20-0.60	0.07-0.09	Low------	1.0-3.0	0.10	0.43	4	8	0
	8-47	20-35	1.40-1.50	0.60-2.00	0.09-0.11	Low------	1.0-2.0	0.10	0.24			
	47-60	10-18	1.50-1.60	6.00-20.00	0.05-0.06	Low------	0.5-1.0	0.05	0.17			
72:												
Kapod-----------	0-4	18-27	1.30-1.40	0.60-2.00	0.09-0.11	Low------	1.0-3.0	0.10	0.37	5	8	0
	4-14	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.10	0.37			
	14-20	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.10	0.37			
	20-30	10-18	1.40-1.50	2.00-6.00	0.06-0.08	Low------	0.5-1.0	0.02	0.24			
	30-60	18-27	1.30-1.40	2.00-6.00	0.07-0.09	Low------	0.0-0.5	0.05	0.37			
Rock outcrop.												
73:												
Kessler---------	0-3	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43	5	4L	86
	3-6	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	6-15	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
	15-22	18-27	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.43	0.43			
	22-43	18-27	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.43	0.43			
	43-60	18-27	1.20-1.30	0.60-2.00	0.15-0.16	Low------	0.0-0.5	0.43	0.43			
74:												
Kessler---------	0-3	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43	5	4L	86
	3-6	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	6-15	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
	15-22	18-27	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.43	0.43			
	22-43	18-27	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.43	0.43			
	43-60	18-27	1.20-1.30	0.60-2.00	0.15-0.16	Low------	0.0-0.5	0.43	0.43			
75:												
Kessler---------	0-3	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43	5	4L	86
	3-6	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	6-15	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.43	0.43			
	15-22	18-27	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.43	0.43			
	22-43	18-27	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.43	0.43			
	43-60	18-27	1.20-1.30	0.60-2.00	0.15-0.16	Low------	0.0-0.5	0.43	0.43			
Linoyer---------	0-3	12-18	1.20-1.30	0.60-2.00	0.15-0.17	Low------	1.0-2.0	0.37	0.37	5	4L	86
	3-9	12-18	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.37	0.37			
	9-52	12-18	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
	52-60	12-18	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.0-0.5	0.43	0.43			
76:												
Kidman----------	0-7	5-18	1.50-1.60	2.00-6.00	0.10-0.12	Low------	1.0-3.0	0.24	0.24	5	3	86
	7-13	5-18	1.30-1.40	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.55	0.55			
	13-34	5-18	1.30-1.40	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.55	0.55			
	34-60	5-18	1.50-1.60	2.00-6.00	0.09-0.11	Low------	0.5-1.0	0.15	0.20			
Preston---------	0-18	5-10	1.50-1.60	6.00-20.00	0.07-0.09	Low------	1.0-2.0	0.10	0.15	5	2	134
	18-60	5-10	1.50-1.60	6.00-20.00	0.07-0.09	Low------	0.5-1.0	0.15	0.17			
77:												
Kitchell--------	0-14	18-27	1.15-1.25	0.60-2.00	0.11-0.13	Low------	2.0-5.0	0.15	0.37	3	7	38
	14-22	18-27	1.15-1.25	0.60-2.00	0.11-0.13	Low------	2.0-5.0	0.05	0.37			
	22-60	18-27	1.20-1.30	2.00-6.00	0.07-0.08	Low------	0.5-1.0	0.05	0.37			
78:												
Kudlac----------	0-3	18-27	1.20-1.30	0.60-2.00	0.16-0.17	Low------	1.0-2.0	0.43	0.43	5	4L	86
	3-6	27-35	1.15-1.20	0.06-0.20	0.16-0.18	Moderate	0.5-1.0	0.43	0.43			
	6-60	27-35	1.15-1.20	0.01-0.06	0.16-0.17	Moderate	0.0-0.5	0.43	0.43			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
79:												
Larwood---------	0-4	10-18	1.50-1.60	0.60-2.00	0.10-0.12	Low------	1.0-2.0	0.28	0.28	2	3	86
	4-12	18-27	1.30-1.40	0.60-2.00	0.16-0.17	Low------	0.5-1.0	0.37	0.37			
	12-19	18-27	1.20-1.30	0.60-2.00	0.16-0.17	Low------	0.5-1.0	0.37	0.37			
	19-39	27-35	1.20-1.30	0.06-0.20	0.18-0.19	Moderate	0.5-1.0	0.37	0.37			
	39-45	18-27	1.30-1.40	0.60-2.00	0.16-0.17	Low------	0.5-1.0	0.37	0.43			
	45-60	15-20	1.40-1.50	0.60-2.00	0.13-0.14	Low------	0.0-0.5	0.32	0.37			
Berent----------	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.0-0.5	0.10	0.15			
80:												
Lava flows.												
Berent----------	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.0-0.5	0.10	0.15			
81:												
Lava flows.												
Shotwell--------	0-3	18-27	1.25-1.40	0.60-2.00	0.07-0.09	Low------	0.5-2.0	0.10	0.37	1	7	38
	3-14	18-27	1.25-1.40	0.60-2.00	0.10-0.12	Low------	0.5-1.0	0.24	0.32			
	14	---	---	0.01-0.02	---	---	---	---	---			
82:												
Linoyer---------	0-3	12-18	1.20-1.30	0.60-2.00	0.15-0.17	Low------	1.0-2.0	0.37	0.37	5	4L	86
	3-9	12-18	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.5-1.0	0.37	0.37			
	9-52	12-18	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.0-0.5	0.43	0.43			
	52-60	12-18	1.20-1.30	0.60-2.00	0.15-0.17	Low------	0.0-0.5	0.43	0.43			
83:												
Linoyer---------	0-9	12-18	1.30-1.50	0.60-2.00	0.14-0.16	Low------	0.5-1.0	0.43	0.43	5	3	86
	9-60	12-18	1.30-1.50	0.60-2.00	0.15-0.18	Low------	0.5-1.0	0.49	0.49			
84:												
Lizzant---------	0-10	18-27	1.40-1.50	2.00-6.00	0.08-0.10	Low------	2.0-4.0	0.05	0.37	3	8	0
	10-21	18-27	1.40-1.50	2.00-6.00	0.09-0.11	Low------	1.0-3.0	0.20	0.37			
	21-31	18-27	1.40-1.50	2.00-6.00	0.08-0.10	Low------	0.5-1.0	0.10	0.37			
	31-60	18-27	1.40-1.50	2.00-6.00	0.07-0.09	Low------	0.5-1.0	0.05	0.37			
85:												
Lodar-----------	0-3	18-27	1.30-1.40	2.00-6.00	0.07-0.08	Low------	1.0-2.0	0.05	0.37	1	8	0
	3-10	18-27	1.30-1.40	0.60-2.00	0.09-0.11	Low------	1.0-2.0	0.10	0.37			
	10-17	18-27	1.30-1.40	0.60-2.00	0.08-0.11	Low------	0.5-1.0	0.10	0.37			
	17	---	---	0.00-0.01	---	---	---	---	---			
86:												
Lodar-----------	0-3	18-27	1.30-1.40	2.00-6.00	0.07-0.08	Low------	1.0-2.0	0.05	0.37	1	8	0
	3-10	18-27	1.30-1.40	0.60-2.00	0.09-0.11	Low------	1.0-2.0	0.10	0.37			
	10-17	18-27	1.30-1.40	0.60-2.00	0.08-0.11	Low------	0.5-1.0	0.10	0.37			
	17	---	---	0.00-0.01	---	---	---	---	---			
Kidman----------	0-7	5-18	1.50-1.60	2.00-6.00	0.10-0.12	Low------	1.0-3.0	0.24	0.24	5	3	86
	7-13	5-18	1.30-1.40	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.55	0.55			
	13-34	5-18	1.30-1.40	0.60-2.00	0.16-0.18	Low------	0.5-1.0	0.55	0.55			
	34-60	5-18	1.50-1.60	2.00-6.00	0.09-0.11	Low------	0.5-1.0	0.15	0.20			
87:												
Lodar-----------	0-3	18-27	1.30-1.40	2.00-6.00	0.07-0.08	Low------	1.0-2.0	0.05	0.37	1	8	0
	3-10	18-27	1.30-1.40	0.60-2.00	0.09-0.11	Low------	1.0-2.0	0.10	0.37			
	10-17	18-27	1.30-1.40	0.60-2.00	0.08-0.11	Low------	0.5-1.0	0.10	0.37			
	17	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop.												

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Organic matter	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in		Pct					
88:												
Lonjon----------	0-2	18-27	1.30-1.40	0.60-2.00	0.11-0.14	Low------	2.0-4.0	0.20	0.37	2	5	56
	2-6	18-27	1.30-1.40	0.60-2.00	0.08-0.11	Low------	2.0-4.0	0.10	0.37			
	6-12	18-27	1.30-1.40	0.60-2.00	0.08-0.11	Low------	1.0-3.0	0.10	0.32			
	12-24	18-27	1.30-1.40	0.60-2.00	0.08-0.11	Low------	1.0-2.0	0.10	0.32			
	24-37	18-27	1.30-1.40	0.60-2.00	0.05-0.08	Low------	1.0-2.0	0.05	0.32			
	37	---	---	0.01-0.06	---	---	---	---	---			
89:												
Manassa---------	0-5	18-27	1.20-1.30	0.60-2.00	0.11-0.14	Low------	0.5-1.0	0.43	0.43	5	4L	86
	5-13	18-27	1.20-1.30	0.60-2.00	0.11-0.14	Low------	0.5-1.0	0.43	0.43			
	13-27	18-27	1.20-1.30	0.60-2.00	0.05-0.08	Low------	0.0-0.5	0.43	0.43			
	27-46	27-35	1.15-1.20	0.06-0.20	0.05-0.09	Moderate	0.0-0.5	0.37	0.37			
	46-60	18-27	1.20-1.30	0.60-2.00	0.06-0.10	Low------	0.0-0.5	0.43	0.43			
90:												
Manassa---------	0-5	18-27	1.20-1.30	0.60-2.00	0.11-0.14	Low------	0.5-1.0	0.43	0.43	5	4L	86
	5-13	18-27	1.20-1.30	0.60-2.00	0.11-0.14	Low------	0.5-1.0	0.43	0.43			
	13-27	18-27	1.20-1.30	0.60-2.00	0.05-0.08	Low------	0.0-0.5	0.43	0.43			
	27-46	27-35	1.15-1.20	0.06-0.20	0.05-0.09	Moderate	0.0-0.5	0.37	0.37			
	46-60	18-27	1.20-1.30	0.60-2.00	0.06-0.10	Low------	0.0-0.5	0.43	0.43			
Mellor----------	0-6	20-27	1.10-1.25	0.20-0.60	0.15-0.18	Low------	0.5-1.0	0.49	0.49	5	4L	86
	6-21	27-35	1.15-1.30	0.06-0.20	0.02-0.15	Moderate	0.5-1.0	0.43	0.43			
	21-60	27-35	1.15-1.30	0.06-0.20	0.02-0.11	Moderate	0.0-0.5	0.43	0.43			
91:												
Medburn---------	0-4	10-18	1.40-1.50	2.00-6.00	0.09-0.12	Low------	1.0-2.0	0.24	0.24	5	3	86
	4-13	12-18	1.40-1.50	2.00-6.00	0.09-0.12	Low------	0.5-1.0	0.24	0.24			
	13-30	10-18	1.40-1.50	2.00-6.00	0.08-0.11	Low------	0.5-1.0	0.32	0.32			
	30-60	10-18	1.40-1.50	2.00-6.00	0.08-0.11	Low------	0.5-1.0	0.32	0.32			
Berent----------	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low------	0.0-0.5	0.10	0.15			
Escalante-------	0-19	10-18	1.35-1.50	0.60-2.00	0.09-0.11	Low------	0.5-1.0	0.28	0.28	3	3	86
	19-33	10-18	1.35-1.50	0.60-2.00	0.09-0.12	Low------	0.5-1.0	0.24	0.24			
	33-44	10-18	1.30-1.50	0.60-2.00	0.11-0.14	Low------	0.5-1.0	0.28	0.28			
	44-46	15-25	1.30-1.40	0.60-2.00	0.13-0.16	Low------	0.0-0.5	0.49	0.49			
	46-51	10-15	1.35-1.50	6.00-20.00	0.08-0.09	Low------	0.0-0.5	0.24	0.24			
	51-60	18-27	1.30-1.40	0.60-2.00	0.16-0.18	Low------	0.0-0.5	0.37	0.37			
92:												
Memmott---------	0-18	18-27	1.20-1.30	0.20-0.60	0.15-0.17	Moderate	1.0-3.0	0.43	0.43	5	4L	86
	18-32	27-35	1.20-1.30	0.06-0.20	0.16-0.18	Moderate	0.5-1.0	0.43	0.43			
	32-52	27-35	1.20-1.30	0.06-0.20	0.15-0.18	Moderate	0.0-0.5	0.43	0.43			
	52-60	27-35	1.35-1.45	0.06-0.20	0.15-0.18	Moderate	0.0-0.5	0.49	0.49			
93:												
Musinia---------	0-4	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43	5	4L	86
	4-11	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43			
	11-22	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	22-36	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-2.0	0.43	0.43			
	36-60	27-35	1.10-1.20	0.20-0.60	0.16-0.18	Moderate	0.5-1.0	0.37	0.37			
94:												
Musinia---------	0-4	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43	5	4L	86
	4-11	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-3.0	0.43	0.43			
	11-22	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	1.0-2.0	0.43	0.43			
	22-36	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low------	0.5-2.0	0.43	0.43			
	36-60	27-35	1.10-1.20	0.20-0.60	0.16-0.18	Moderate	0.5-1.0	0.37	0.37			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
95:												
Oakcity	0-5	18-27	1.25-1.40	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.32	0.32	5	4L	86
	5-10	27-35	1.30-1.40	0.20-0.60	0.16-0.18	Moderate	0.0-1.0	0.32	0.32			
	10-15	27-40	1.25-1.40	0.20-0.60	0.17-0.19	Moderate	0.0-1.0	0.43	0.43			
	15-60	40-50	1.20-1.35	0.06-0.20	0.13-0.17	High	0.0-0.5	0.28	0.28			
96:												
Oasis	0-5	14-18	1.30-1.40	2.00-6.00	0.10-0.12	Low	1.0-2.0	0.32	0.32	4	3	86
	5-13	10-18	1.30-1.40	2.00-6.00	0.10-0.12	Low	0.5-1.0	0.32	0.32			
	13-24	10-18	1.30-1.40	2.00-6.00	0.10-0.12	Low	0.5-1.0	0.32	0.32			
	24-36	10-18	1.30-1.40	0.60-2.00	0.10-0.12	Low	0.5-1.0	0.37	0.37			
	36-48	10-18	1.30-1.40	0.60-2.00	0.12-0.14	Low	0.0-0.5	0.37	0.37			
	48-60	5-8	1.40-1.60	6.00-20.00	0.05-0.07	Low	0.0-0.5	0.24	0.24			
97:												
Pibler	0-7	15-20	1.30-1.40	2.00-6.00	0.11-0.12	Low	1.0-2.0	0.15	0.28	1	5	56
	7-12	15-27	1.20-1.30	2.00-6.00	0.08-0.10	Low	0.5-1.0	0.10	0.32			
	12	---	---	0.01-0.06	---	---	---	---	---			
98:												
Pibler	0-7	15-20	1.30-1.40	2.00-6.00	0.11-0.12	Low	1.0-2.0	0.15	0.28	1	5	56
	7-12	15-27	1.20-1.30	2.00-6.00	0.08-0.10	Low	0.5-1.0	0.10	0.32			
	12	---	---	0.01-0.06	---	---	---	---	---			
Pober	0-3	18-27	1.40-1.50	0.60-2.00	0.13-0.15	Low	1.0-3.0	0.20	0.37	2	8	0
	3-10	18-27	1.40-1.50	0.60-2.00	0.08-0.09	Low	1.0-2.0	0.10	0.32			
	10-23	18-27	1.40-1.50	0.60-2.00	0.07-0.08	Low	0.5-1.0	0.10	0.32			
	23-30	18-27	1.40-1.50	0.60-2.00	0.08-0.09	Low	0.5-1.0	0.10	0.32			
	30	---	---	---	---	---	---	---	---			
99:												
Pober	0-3	18-27	1.40-1.50	0.60-2.00	0.13-0.15	Low	1.0-3.0	0.20	0.37	2	8	0
	3-10	18-27	1.40-1.50	0.60-2.00	0.08-0.09	Low	1.0-2.0	0.10	0.32			
	10-23	18-27	1.40-1.50	0.60-2.00	0.07-0.08	Low	0.5-1.0	0.10	0.32			
	23-30	18-27	1.40-1.50	0.60-2.00	0.08-0.09	Low	0.5-1.0	0.10	0.32			
	30	---	---	---	---	---	---	---	---			
100:												
Pober	0-6	6-10	1.60-1.70	2.00-6.00	0.07-0.08	Low	1.0-2.0	0.20	0.24	2	2	134
	6-13	12-18	1.50-1.55	0.60-2.00	0.10-0.11	Low	1.0-2.0	0.20	0.28			
	13-21	12-18	1.50-1.60	0.60-2.00	0.05-0.08	Low	0.5-1.0	0.10	0.24			
	21-36	5-10	1.60-1.70	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.02	0.17			
	36	---	---	0.01-0.06	---	---	---	---	---			
Berent	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low	0.0-0.5	0.10	0.15			
101:												
Pober	0-6	6-10	1.60-1.70	2.00-6.00	0.07-0.08	Low	1.0-2.0	0.20	0.24	2	2	134
	6-13	12-18	1.50-1.55	0.60-2.00	0.10-0.11	Low	1.0-2.0	0.20	0.28			
	13-21	12-18	1.50-1.60	0.60-2.00	0.05-0.08	Low	0.5-1.0	0.10	0.24			
	21-36	5-10	1.60-1.70	6.00-20.00	0.03-0.05	Low	0.0-0.5	0.02	0.17			
	36	---	---	0.01-0.06	---	---	---	---	---			
Berent	0-8	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low	0.5-1.0	0.20	0.24	5	2	134
	8-60	2-5	1.30-1.50	6.00-20.00	0.08-0.10	Low	0.0-0.5	0.10	0.15			
102:												
Preston	0-18	5-10	1.50-1.60	6.00-20.00	0.07-0.09	Low	1.0-2.0	0.10	0.15	5	2	134
	18-60	5-10	1.50-1.60	6.00-20.00	0.07-0.09	Low	0.5-1.0	0.15	0.17			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
103:												
Probert---------	0-4	18-27	1.20-1.30	0.60-2.00	0.16-0.17	Low------	1.0-3.0	0.32	0.37	2	4L	86
	4-15	27-35	1.10-1.20	0.20-0.60	0.17-0.18	Moderate	1.0-2.0	0.32	0.37			
	15-24	27-35	1.10-1.20	0.20-0.60	0.17-0.18	Moderate	1.0-2.0	0.32	0.37			
	24-34	27-35	1.10-1.20	0.20-0.60	0.17-0.18	Moderate	0.5-1.0	0.32	0.37			
	34-60	15-20	1.30-1.40	0.60-2.00	0.13-0.14	Low------	0.5-1.0	0.24	0.28			
104:												
Rock outcrop.												
Lodar-----------	0-3	18-27	1.30-1.40	2.00-6.00	0.07-0.08	Low------	1.0-2.0	0.05	0.37	1	8	0
	3-10	18-27	1.30-1.40	0.60-2.00	0.09-0.11	Low------	1.0-2.0	0.10	0.37			
	10-17	18-27	1.30-1.40	0.60-2.00	0.08-0.11	Low------	0.5-1.0	0.10	0.37			
	17	---	---	0.00-0.01	---	---	---	---	---			
105:												
Rock outcrop.												
Shotwell--------	0-3	18-27	1.25-1.40	0.60-2.00	0.07-0.09	Low------	0.5-2.0	0.10	0.37	1	7	38
	3-14	18-27	1.25-1.40	0.60-2.00	0.12-0.15	Low------	0.5-1.0	0.24	0.32			
	14	---	---	0.01-0.02	---	---	---	---	---			
106:												
Rock outcrop.												
Soma------------	0-2	10-18	1.15-1.25	0.60-2.00	0.08-0.11	Low------	0.5-2.0	0.15	0.37	1	7	38
	2-6	10-18	1.20-1.35	0.60-2.00	0.08-0.12	Low------	0.5-1.0	0.15	0.37			
	6-18	10-18	1.20-1.35	0.60-2.00	0.05-0.08	Low------	0.0-0.5	0.02	0.32			
	18	---	---	0.20-2.00	---	---	---	---	---			
107:												
Searla----------	0-3	18-27	1.20-1.30	0.60-2.00	0.12-0.16	Low------	2.0-4.0	0.24	0.43	3	6	48
	3-7	18-27	1.20-1.30	0.60-2.00	0.11-0.14	Low------	2.0-3.0	0.20	0.43			
	7-16	27-35	1.20-1.30	0.20-0.60	0.09-0.13	Moderate	1.0-2.0	0.17	0.37			
	16-50	18-27	1.20-1.30	0.60-2.00	0.09-0.13	Low------	0.5-1.0	0.17	0.37			
	50	---	---	0.00-0.06	---	---	---	---	---			
Kapod-----------	0-4	18-27	1.30-1.40	0.60-2.00	0.09-0.11	Low------	1.0-3.0	0.10	0.37	5	8	0
	4-14	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.10	0.37			
	14-20	27-35	1.20-1.30	0.60-2.00	0.10-0.12	Moderate	1.0-2.0	0.10	0.37			
	20-30	10-18	1.40-1.50	2.00-6.00	0.06-0.08	Low------	0.5-1.0	0.02	0.24			
	30-60	18-27	1.30-1.40	2.00-6.00	0.07-0.09	Low------	0.0-0.5	0.05	0.37			
108:												
Spager----------	0-2	15-18	1.40-1.50	2.00-6.00	0.11-0.13	Low------	1.0-2.0	0.24	0.43	1	6	48
	2-5	15-18	1.40-1.50	2.00-6.00	0.09-0.11	Low------	0.5-1.0	0.15	0.43			
	5-11	12-18	1.40-1.50	2.00-6.00	0.09-0.11	Low------	0.5-1.0	0.15	0.43			
	11	---	---	0.01-0.02	---	---	---	---	---			
109:												
Sterling--------	0-4	18-24	1.25-1.35	0.60-2.00	0.16-0.17	Low------	2.0-4.0	0.32	0.37	5	4L	86
	4-11	18-24	1.35-1.40	2.00-6.00	0.12-0.13	Low------	1.0-3.0	0.10	0.32			
	11-18	18-24	1.35-1.40	2.00-6.00	0.11-0.12	Low------	1.0-2.0	0.10	0.32			
	18-29	18-24	1.35-1.45	2.00-6.00	0.09-0.11	Low------	0.5-1.0	0.10	0.32			
	29-60	16-20	1.40-1.50	2.00-6.00	0.08-0.10	Low------	0.5-1.0	0.05	0.24			
110:												
Taylorsflat-----	0-5	18-27	1.30-1.40	0.60-2.00	0.15-0.16	Low------	1.0-2.0	0.37	0.37	5	4L	86
	5-20	18-27	1.30-1.40	0.60-2.00	0.15-0.16	Low------	0.5-1.0	0.37	0.37			
	20-33	27-35	1.20-1.30	0.20-0.60	0.16-0.17	Moderate	0.0-0.5	0.43	0.43			
	33-60	27-35	1.20-1.30	0.20-0.60	0.16-0.18	Moderate	0.0-0.5	0.43	0.43			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
111:												
Taylorsflat	0-5	18-27	1.30-1.40	0.60-2.00	0.15-0.16	Low	1.0-2.0	0.37	0.37	5	4L	86
	5-20	18-27	1.30-1.40	0.60-2.00	0.15-0.16	Low	0.5-1.0	0.37	0.37			
	20-33	27-35	1.20-1.30	0.20-0.60	0.16-0.17	Moderate	0.0-0.5	0.43	0.43			
	33-60	27-35	1.20-1.30	0.20-0.60	0.16-0.18	Moderate	0.0-0.5	0.43	0.43			
112:												
Thiokol	0-5	18-27	1.20-1.30	0.60-2.00	0.16-0.17	Low	1.0-2.0	0.43	0.43	2	4L	86
	5-13	18-27	1.20-1.30	0.60-2.00	0.16-0.17	Low	0.5-1.0	0.43	0.43			
	13-29	18-27	1.20-1.30	0.60-2.00	0.16-0.17	Low	0.0-0.5	0.43	0.43			
	29-45	18-27	1.20-1.30	0.60-2.00	0.12-0.16	Low	0.0-0.5	0.43	0.43			
	45-60	18-27	1.20-1.30	0.60-2.00	0.09-0.10	Low	0.0-0.5	0.43	0.43			
113:												
Timpie	0-5	10-18	1.40-1.50	0.60-2.00	0.10-0.12	Low	1.0-2.0	0.28	0.28	5	3	86
	5-11	18-27	1.20-1.30	0.60-2.00	0.17-0.18	Low	0.5-1.0	0.43	0.43			
	11-17	18-27	1.20-1.30	0.60-2.00	0.17-0.18	Low	0.5-1.0	0.43	0.43			
	17-35	18-27	1.20-1.30	0.60-2.00	0.12-0.16	Low	0.0-0.5	0.43	0.43			
	35-60	18-27	1.20-1.30	0.60-2.00	0.11-0.15	Low	0.0-0.5	0.43	0.43			
114:												
Timpie	0-5	10-18	1.40-1.50	0.60-2.00	0.10-0.12	Low	1.0-2.0	0.28	0.28	5	3	86
	5-11	18-27	1.20-1.30	0.60-2.00	0.17-0.18	Low	0.5-1.0	0.43	0.43			
	11-17	18-27	1.20-1.30	0.60-2.00	0.17-0.18	Low	0.5-1.0	0.43	0.43			
	17-35	18-27	1.20-1.30	0.60-2.00	0.12-0.16	Low	0.0-0.5	0.43	0.43			
	35-60	18-27	1.20-1.30	0.60-2.00	0.11-0.15	Low	0.0-0.5	0.43	0.43			
Uvada	0-2	18-27	1.30-1.40	0.60-2.00	0.15-0.17	Low	1.0-2.0	0.37	0.43	3	4L	86
	2-7	18-27	1.20-1.30	0.60-2.00	0.16-0.18	Low	1.0-2.0	0.43	0.43			
	7-10	27-35	1.20-1.30	0.20-0.60	0.15-0.17	Moderate	0.5-1.0	0.43	0.43			
	10-22	40-45	1.20-1.30	0.02-0.06	0.10-0.13	High	0.5-1.0	0.37	0.37			
	22-31	40-45	1.20-1.30	0.02-0.06	0.10-0.13	High	0.0-0.5	0.37	0.37			
	31-60	27-35	1.20-1.30	0.20-0.60	0.09-0.12	Low	0.0-0.5	0.43	0.43			
115:												
Tooele	0-4	5-8	1.50-1.60	6.00-20.00	0.08-0.09	Low	1.0-2.0	0.24	0.24	5	2	134
	4-20	5-8	1.50-1.60	6.00-20.00	0.08-0.09	Low	0.5-1.0	0.24	0.24			
	20-39	10-18	1.45-1.55	2.00-6.00	0.11-0.12	Low	0.0-0.5	0.28	0.28			
	39-60	5-8	1.50-1.60	6.00-20.00	0.07-0.09	Low	0.0-0.5	0.24	0.24			
116:												
Uffens	0-4	3-10	1.50-1.60	2.00-6.00	0.08-0.10	Low	1.0-2.0	0.43	0.43	5	2	134
	4-10	18-27	1.25-1.35	0.60-2.00	0.15-0.16	Low	1.0-2.0	0.37	0.37			
	10-16	27-35	1.20-1.30	0.20-0.60	0.14-0.16	Moderate	0.5-1.0	0.37	0.37			
	16-22	18-27	1.20-1.30	0.60-2.00	0.11-0.15	Low	0.5-1.0	0.43	0.43			
	22-28	15-20	1.40-1.50	0.60-2.00	0.07-0.09	Low	0.5-1.0	0.28	0.28			
	28-60	15-20	1.40-1.50	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.28	0.28			
117:												
Uffens	0-3	18-27	1.20-1.30	0.60-2.00	0.14-0.16	Low	1.0-2.0	0.43	0.43	5	4L	86
	3-7	18-27	1.25-1.35	0.60-2.00	0.14-0.15	Low	0.5-1.0	0.37	0.37			
	7-13	27-35	1.20-1.30	0.20-0.60	0.08-0.12	Moderate	0.5-1.0	0.37	0.37			
	13-27	18-27	1.30-1.50	0.60-2.00	0.07-0.09	Low	0.5-1.0	0.37	0.37			
	27-60	18-27	1.30-1.50	0.60-2.00	0.07-0.09	Low	0.0-0.5	0.37	0.37			
118:												
Uvada	0-4	27-35	1.30-1.50	0.20-0.60	0.15-0.17	Moderate	0.5-1.0	0.43	0.43	5	4L	86
	4-11	27-35	1.30-1.50	0.20-0.60	0.13-0.17	Moderate	0.5-1.0	0.43	0.43			
	11-20	35-40	1.30-1.50	0.20-0.60	0.10-0.15	High	0.5-1.0	0.37	0.37			
	20-23	40-50	1.30-1.50	0.01-0.06	0.09-0.13	High	0.0-1.0	0.37	0.37			
	23-43	27-40	1.30-1.50	0.20-0.60	0.12-0.15	Moderate	0.0-0.5	0.43	0.43			
	43-60	27-35	1.30-1.50	0.20-0.60	0.12-0.15	Moderate	0.0-0.5	0.43	0.43			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Shrink-swell potential	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
119:												
Uvada-----------	0-4	27-35	1.30-1.50	0.20-0.60	0.15-0.17	Moderate	0.5-1.0	0.43	0.43	5	4L	86
	4-11	27-35	1.30-1.50	0.20-0.60	0.13-0.17	Moderate	0.5-1.0	0.43	0.43			
	11-20	35-40	1.30-1.50	0.20-0.60	0.10-0.15	High-----	0.5-1.0	0.37	0.37			
	20-23	40-50	1.30-1.50	0.01-0.06	0.09-0.13	High-----	0.0-1.0	0.37	0.37			
	23-43	27-40	1.30-1.50	0.20-0.60	0.12-0.15	Moderate	0.0-0.5	0.43	0.43			
	43-60	27-35	1.30-1.50	0.20-0.60	0.12-0.15	Moderate	0.0-0.5	0.43	0.43			
Yenrab----------	0-5	5-10	1.40-1.55	6.00-20.00	0.08-0.09	Low------	0.5-1.0	0.17	0.17	5	2	134
	5-60	5-10	1.40-1.55	6.00-20.00	0.07-0.09	Low------	0.0-0.5	0.15	0.15			
120:												
Woodrow---------	0-16	27-35	1.20-1.30	0.06-0.20	0.15-0.16	Moderate	0.5-1.0	0.43	0.43	5	4L	86
	16-60	27-35	1.20-1.35	0.06-0.20	0.15-0.16	Moderate	0.0-0.5	0.43	0.43			
121:												
Yenrab----------	0-5	5-10	1.40-1.55	6.00-20.00	0.08-0.09	Low------	0.5-1.0	0.17	0.17	5	2	134
	5-60	5-10	1.40-1.55	6.00-20.00	0.07-0.09	Low------	0.0-0.5	0.15	0.15			
122:												
Yenrab----------	0-5	5-10	1.40-1.55	6.00-20.00	0.08-0.09	Low------	0.5-1.0	0.17	0.17	5	2	134
	5-60	5-10	1.40-1.55	6.00-20.00	0.07-0.09	Low------	0.0-0.5	0.15	0.15			
Puddle----------	0-4	10-18	1.40-1.50	0.60-2.00	0.10-0.13	Low------	0.5-1.0	0.28	0.28	2	3	86
	4-11	10-18	1.40-1.50	0.60-2.00	0.10-0.13	Low------	0.5-1.0	0.28	0.28			
	11-36	12-18	1.30-1.40	0.20-0.60	0.15-0.16	Low------	0.0-0.5	0.32	0.32			
	36-60	10-18	1.40-1.50	0.60-2.00	0.09-0.11	Low------	0.0-0.5	0.24	0.28			
123:												
Yenrab----------	0-5	5-10	1.40-1.55	6.00-20.00	0.08-0.09	Low------	0.5-1.0	0.17	0.17	5	2	134
	5-60	5-10	1.40-1.55	6.00-20.00	0.07-0.09	Low------	0.0-0.5	0.15	0.15			
Uvada-----------	0-3	12-20	1.30-1.40	0.60-2.00	0.14-0.16	Low------	0.5-1.0	0.37	0.37	2	3	86
	3-23	40-50	1.20-1.35	0.06-0.20	0.10-0.14	High-----	0.0-0.5	0.28	0.28			
	23-50	27-40	1.25-1.40	0.20-0.60	0.02-0.10	Moderate	0.0-0.5	0.43	0.43			
	50-60	8-12	1.30-1.45	6.00-20.00	0.02-0.06	Low------	0.0-0.5	0.28	0.28			

Table 19.--Chemical Properties of the Soils

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
1:								
Amtoft----------	0-8	18-27	10.0-20.0	7.9-9.0	50-70	---	---	---
	8-19	18-27	10.0-20.0	7.9-9.0	70-80	---	---	---
	19	---	---	---	---	---	---	---
Rock outcrop.								
2:								
Amtoft----------	0-8	18-27	10.0-20.0	7.9-9.0	50-70	---	---	---
	8-19	18-27	10.0-20.0	7.9-9.0	70-80	---	---	---
	19	---	---	---	---	---	---	---
Spager----------	0-2	15-18	5.0-15.0	7.9-8.4	35-40	---	0-2	---
	2-5	15-18	5.0-15.0	8.5-9.0	45-50	---	0-2	---
	5-11	12-18	5.0-15.0	8.5-9.0	60-65	---	0-2	---
	11	---	---	---	---	---	---	---
3:								
Ashdown---------	0-20	18-27	10.0-20.0	7.9-8.4	10-20	---	0-2	---
	20-60	18-27	10.0-25.0	7.9-8.4	20-30	---	0-2	---
4:								
Ashdown---------	0-20	18-27	10.0-20.0	7.9-8.4	10-20	---	0-2	---
	20-60	18-27	10.0-25.0	7.9-8.4	20-30	---	0-2	---
5:								
Atepic----------	0-2	27-30	10.0-20.0	7.9-9.0	30-40	---	1-2	---
	2-10	27-35	10.0-15.0	7.9-9.0	30-40	---	1-2	---
	10-18	27-35	10.0-25.0	8.5-9.0	40-55	---	1-2	---
	18-25	---	---	---	---	---	---	---
Rock outcrop.								
6:								
Atepic----------	0-2	27-30	10.0-20.0	7.9-9.0	30-40	---	1-2	---
	2-10	27-35	10.0-15.0	7.9-9.0	30-40	---	1-2	---
	10-18	27-35	10.0-25.0	8.5-9.0	40-55	---	1-2	---
	18-25	---	---	---	---	---	---	---
Sonlet----------	0-4	12-18	10.0-20.0	7.9-8.4	10-30	---	0-2	---
	4-10	12-18	10.0-20.0	7.9-8.4	20-30	---	0-2	---
	10-19	12-18	5.0-12.0	8.5-9.0	20-30	---	0-2	---
	19	---	---	---	---	---	---	---
7:								
Bandag----------	0-7	18-27	10.0-25.0	7.9-9.0	15-40	---	0-2	---
	7-60	18-27	10.0-25.0	7.9-9.0	15-40	---	0-2	---
8:								
Bandag----------	0-7	18-27	10.0-25.0	7.9-9.0	15-40	---	0-2	---
	7-60	18-27	10.0-25.0	7.9-9.0	15-40	---	0-2	---
9:								
Bandag----------	0-7	18-27	10.0-25.0	7.9-9.0	15-40	---	0-2	---
	7-60	18-27	10.0-25.0	7.9-9.0	15-40	---	0-2	---
Berent----------	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
10:								
Beckstrand------	0-8	15-18	10.0-15.0	7.9-8.4	5-10	---	0-2	---
	8-17	15-18	10.0-15.0	7.9-8.4	5-10	---	0-2	---
	17-34	10-18	10.0-15.0	7.9-8.4	10-15	---	0-2	---
	34-60	15-18	10.0-15.0	7.4-8.4	5-10	---	0-2	---
Benstot---------	0-8	18-27	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	8-16	18-27	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	16-32	18-27	10.0-20.0	7.4-7.8	5-10	---	0-2	---
	32-60	18-27	8.0-18.0	7.4-7.8	5-10	---	0-2	---
11:								
Benstot---------	0-8	18-27	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	8-16	18-27	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	16-32	18-27	10.0-20.0	7.4-7.8	10-15	---	0-2	---
	32-60	18-27	8.0-18.0	7.4-7.8	5-10	---	0-2	---
Scipio----------	0-5	18-27	10.0-20.0	7.9-8.4	5-10	---	---	---
	5-11	18-27	10.0-20.0	7.9-8.4	5-10	---	---	---
	11-21	18-27	10.0-20.0	7.9-8.4	10-15	---	---	---
	21-36	15-20	10.0-20.0	7.9-9.0	10-20	---	0-2	---
	36-60	18-27	10.0-20.0	7.9-9.0	5-10	---	0-2	---
12:								
Bentaxle--------	0-3	18-27	10.0-20.0	7.9-9.0	50-60	---	---	---
	3-5	18-27	5.0-15.0	7.9-9.0	55-70	---	---	---
	5-14	18-27	5.0-15.0	7.9-9.0	65-80	---	0-2	---
	14-19	18-20	5.0-15.0	8.5-9.0	65-80	---	0-2	---
	19	---	---	---	---	---	---	---
Lodar-----------	0-3	18-27	10.0-20.0	7.9-8.4	20-35	---	---	---
	3-10	18-27	5.0-15.0	7.9-8.4	25-40	---	---	---
	10-17	18-27	5.0-15.0	7.9-8.4	40-60	---	---	---
	17	---	---	---	---	---	---	---
13:								
Bentaxle--------	0-3	18-25	10.0-20.0	7.9-9.0	50-60	---	0-4	---
	3-5	18-27	5.0-15.0	7.9-9.0	55-70	---	---	---
	5-14	18-27	5.0-15.0	7.9-9.0	65-80	---	0-2	---
	14-19	18-20	5.0-15.0	8.5-9.0	65-80	---	0-2	---
	19	---	---	---	---	---	---	---
Rock outcrop.								
14:								
Berent----------	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5
15:								
Berent----------	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5
Oakcity---------	0-5	18-27	10.0-20.0	7.9-9.0	15-30	0-1	0-4	0-5
	5-10	27-35	10.0-25.0	7.9-9.0	15-30	0-1	0-4	0-5
	10-15	27-40	10.0-25.0	7.9-9.0	15-30	0-1	0-2	0-5
	15-60	40-50	15.0-30.0	7.9-11.0	15-30	0-1	2-8	0-5
Heist-----------	0-14	10-18	5.0-15.0	7.4-7.8	0-5	---	0-2	---
	14-60	10-15	5.0-15.0	7.9-9.0	5-20	---	0-2	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
16:								
Berent----------	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5
Taylorsflat-----	0-3	18-27	10.0-25.0	7.9-8.4	5-10	---	0-2	---
	3-15	18-27	10.0-20.0	8.5-9.0	5-15	---	0-2	---
	15-39	18-27	10.0-20.0	7.9-9.0	25-35	---	8-16	---
	39-60	18-27	10.0-20.0	7.9-9.0	15-20	0-1	8-16	0-5
Mellor----------	0-6	20-27	10.0-20.0	7.9-9.0	5-30	---	2-8	10-15
	6-21	27-35	10.0-25.0	8.5-11.0	10-30	0-2	8-32	15-35
	21-60	27-35	10.0-30.0	8.5-11.0	15-30	0-2	16-32	15-35
17:								
Bonolden--------	0-7	18-27	10.0-25.0	7.9-8.4	10-20	---	0-2	---
	7-22	18-27	10.0-25.0	7.9-8.4	10-20	---	0-2	---
	22-36	18-27	10.0-25.0	7.9-8.4	10-20	---	0-2	---
	36-60	18-27	10.0-20.0	7.9-8.4	20-30	---	0-2	---
18:								
Bonolden--------	0-7	18-27	10.0-25.0	7.9-8.4	10-20	---	0-2	---
	7-22	18-27	10.0-25.0	7.9-8.4	10-20	---	0-2	---
	22-36	18-27	10.0-25.0	7.9-8.4	10-20	---	0-2	---
	36-60	18-27	10.0-20.0	7.9-8.4	20-30	---	0-2	---
Erda------------	0-6	18-27	10.0-25.0	7.4-8.4	5-15	---	0-2	---
	6-18	18-27	10.0-20.0	7.4-8.4	10-20	---	0-2	---
	18-23	18-27	10.0-25.0	7.9-8.4	10-20	---	0-2	---
	23-38	18-27	10.0-20.0	7.9-8.4	15-30	---	0-2	---
	38-60	18-27	10.0-20.0	7.9-8.4	10-20	---	0-2	---
19:								
Borvant---------	0-7	12-18	10.0-20.0	7.9-8.4	35-40	---	0-2	---
	7-14	12-18	10.0-15.0	7.9-9.0	45-60	---	0-2	---
	14	---	---	---	---	---	---	---
20:								
Borvant---------	0-7	12-18	10.0-20.0	7.9-8.4	35-40	---	0-2	---
	7-14	12-18	10.0-15.0	7.9-9.0	45-60	---	0-2	---
	14	---	---	---	---	---	---	---
Jardal----------	0-4	5-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	4-9	5-18	5.0-10.0	7.9-9.0	15-40	---	0-2	---
	9-26	5-18	5.0-10.0	8.5-9.0	40-60	---	0-2	---
	26-30	---	---	---	---	---	---	---
21:								
Borvant---------	0-7	12-18	10.0-20.0	7.9-8.4	35-40	---	0-2	---
	7-14	12-18	10.0-15.0	7.9-9.0	45-60	---	0-2	---
	14	---	---	---	---	---	---	---
Jardal----------	0-4	5-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	4-9	5-18	5.0-10.0	7.9-9.0	15-40	---	0-2	---
	9-26	5-18	5.0-10.0	8.5-9.0	40-60	---	0-2	---
	26-30	---	---	---	---	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
22:								
Borvant----------	0-7	12-18	10.0-20.0	7.9-8.4	35-40	---	0-2	---
	7-14	12-18	10.0-15.0	7.9-9.0	45-60	---	0-2	---
	14	---	---	---	---	---	---	---
Pavant----------	0-4	18-27	10.0-25.0	7.9-8.4	5-20	---	---	---
	4-11	18-27	10.0-25.0	7.9-8.4	15-20	---	---	---
	11-17	18-27	10.0-20.0	7.9-8.4	15-40	---	---	---
	17	---	---	---	---	---	---	---
23:								
Boxelder--------	0-5	18-27	10.0-20.0	7.4-8.4	20-25	---	0-4	---
	5-18	18-27	5.0-20.0	7.9-9.0	25-35	---	2-8	---
	18-27	18-27	5.0-20.0	8.5-9.0	40-45	---	2-8	---
	27-60	18-27	5.0-20.0	7.9-9.0	40-60	---	2-8	---
24:								
Boxelder--------	0-5	18-27	10.0-20.0	7.4-8.4	20-25	---	0-4	---
	5-18	18-27	5.0-20.0	7.9-9.0	25-35	---	2-8	---
	18-27	18-27	5.0-20.0	8.5-9.0	40-45	---	2-8	---
	27-60	18-27	5.0-20.0	7.9-9.0	40-60	---	2-8	---
25:								
Calita----------	0-8	16-20	15.0-25.0	7.9-8.4	5-10	---	0-2	---
	8-16	18-27	15.0-25.0	8.5-9.0	5-15	---	0-2	---
	16-60	18-27	10.0-20.0	8.5-9.0	15-30	---	0-2	---
Erda------------	0-6	18-27	10.0-25.0	7.4-8.4	5-15	---	0-2	---
	6-18	18-27	10.0-20.0	7.4-8.4	10-20	---	0-2	---
	18-23	18-27	10.0-25.0	7.9-8.4	10-20	---	0-2	---
	23-38	18-27	10.0-20.0	7.9-8.4	15-30	---	0-2	---
	38-60	18-27	10.0-20.0	7.9-8.4	10-20	---	0-2	---
26:								
Calita----------	0-8	16-20	15.0-25.0	7.9-8.4	5-10	---	0-2	---
	8-16	18-27	15.0-25.0	8.5-9.0	5-15	---	0-2	---
	16-60	18-27	10.0-20.0	8.5-9.0	15-30	---	0-2	---
Erda------------	0-6	18-27	10.0-25.0	7.4-8.4	5-15	---	0-2	---
	6-18	18-27	10.0-20.0	7.4-8.4	10-20	---	0-2	---
	18-23	18-27	10.0-25.0	7.9-8.4	10-20	---	0-2	---
	23-38	18-27	10.0-20.0	7.9-8.4	15-30	---	0-2	---
	38-60	18-27	10.0-20.0	7.9-8.4	10-20	---	0-2	---
27:								
Cessna----------	0-3	18-27	10.0-20.0	7.9-8.4	20-25	---	---	---
	3-10	18-27	10.0-20.0	7.9-8.4	25-30	---	---	---
	10-27	18-27	10.0-20.0	7.9-8.4	25-30	---	---	---
	27-60	18-27	10.0-20.0	7.9-8.4	25-30	---	---	---
28:								
Checkett--------	0-4	10-18	5.0-15.0	7.4-7.8	0-5	---	---	---
	4-8	18-27	10.0-20.0	7.4-8.4	0-5	---	---	---
	8-16	27-35	15.0-30.0	7.4-8.4	0-5	---	---	---
	16	---	---	---	---	---	---	---
Amtoft----------	0-8	18-27	10.0-20.0	7.9-9.0	50-70	---	---	---
	8-19	18-27	10.0-20.0	7.9-9.0	70-80	---	---	---
	19	---	---	---	---	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
29:								
Church Springs--	0-4	18-27	18.0-24.0	7.9-8.4	10-15	---	---	---
	4-10	18-27	18.0-24.0	7.9-8.4	15-20	---	---	---
	10-17	27-35	15.0-20.0	7.9-8.4	20-25	---	---	---
	17-27	27-35	15.0-25.0	7.9-8.4	30-35	---	---	---
	27-38	27-35	15.0-25.0	7.9-8.4	30-35	---	---	---
	38-60	27-35	15.0-25.0	8.5-9.0	25-30	---	0-2	---
30:								
Cloyd-----------	0-3	18-27	10.0-15.0	7.9-8.4	15-25	---	---	---
	3-7	18-27	10.0-15.0	7.9-8.4	25-30	---	---	---
	7-15	18-27	10.0-15.0	7.9-9.0	40-50	---	---	---
	15	---	---	---	---	---	---	---
Rock outcrop.								
31:								
Collard---------	0-9	18-27	10.0-25.0	6.6-7.3	---	---	---	---
	9-17	27-35	10.0-25.0	6.6-7.3	---	---	---	---
	17-28	12-18	5.0-15.0	6.6-7.8	---	---	---	---
	28-60	5-10	5.0-10.0	6.6-7.8	---	---	---	---
32:								
Curdli----------	0-10	10-18	10.0-20.0	7.9-8.4	10-15	---	0-4	---
	10-15	12-18	10.0-20.0	8.5-9.0	30-35	---	2-4	---
	15-28	18-27	10.0-20.0	8.5-9.0	40-45	---	2-4	---
	28-37	18-27	10.0-20.0	8.5-9.0	45-50	---	2-4	0-5
	37-48	18-27	10.0-15.0	8.5-9.0	45-50	---	4-8	0-5
	48-60	18-27	10.0-15.0	7.9-8.4	50-55	---	4-8	0-5
33:								
Current Spring--	0-5	18-27	5.0-20.0	6.6-7.3	---	---	---	---
	5-13	27-35	10.0-25.0	6.6-7.3	---	---	---	---
	13-24	35-40	10.0-25.0	6.6-7.3	---	---	---	---
	24-41	40-50	15.0-35.0	6.6-7.3	0-5	---	---	---
	41-60	40-50	15.0-35.0	6.6-7.8	5-10	---	---	---
34:								
Current Spring--	0-5	18-27	5.0-20.0	6.6-7.3	---	---	---	---
	5-13	27-35	10.0-25.0	6.6-7.3	---	---	---	---
	13-24	35-40	10.0-25.0	6.6-7.3	---	---	---	---
	24-41	40-50	15.0-35.0	6.6-7.3	0-5	---	---	---
	41-60	40-50	15.0-35.0	6.6-7.8	5-10	---	---	---
Maple Hollow----	0-2	18-27	10.0-20.0	6.6-7.8	---	---	---	---
	2-8	27-35	10.0-20.0	6.6-7.8	---	---	---	---
	8-16	27-35	10.0-20.0	6.6-7.8	0-5	---	---	---
	16-44	35-50	5.0-15.0	6.6-7.8	0-5	---	---	---
	44-60	18-27	10.0-15.0	7.4-8.4	15-25	---	---	---
35:								
Current Spring--	0-5	18-27	5.0-20.0	6.6-7.3	---	---	---	---
	5-13	27-35	10.0-25.0	6.6-7.3	---	---	---	---
	13-24	35-40	10.0-25.0	6.6-7.3	---	---	---	---
	24-41	40-50	15.0-35.0	6.6-7.3	0-5	---	---	---
	41-60	40-50	15.0-35.0	6.6-7.8	5-10	---	---	---
Maple Hollow----	0-2	18-27	10.0-20.0	6.6-7.8	---	---	---	---
	2-8	27-35	10.0-20.0	6.6-7.8	---	---	---	---
	8-16	27-35	10.0-20.0	6.6-7.8	0-5	---	---	---
	16-44	35-50	5.0-15.0	6.6-7.8	0-5	---	---	---
	44-60	18-27	10.0-15.0	7.4-8.4	15-25	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
36:								
Deseret---------	0-4	18-27	10.0-20.0	7.9-8.4	10-30	5-10	4-16	0-15
	4-24	18-27	10.0-30.0	7.9-8.4	20-40	10-20	4-16	0-15
	24-60	27-35	10.0-25.0	7.9-8.4	20-40	10-20	4-16	0-15
37:								
Donnardo--------	0-8	15-18	10.0-20.0	7.9-8.4	10-15	---	0-2	---
	8-24	18-22	10.0-15.0	7.9-9.0	25-40	---	0-2	---
	24-35	18-22	10.0-15.0	8.5-9.0	25-35	---	0-2	---
	35-60	18-22	10.0-15.0	8.5-9.0	25-35	---	0-2	---
38:								
Donnardo--------	0-11	15-18	10.0-20.0	7.9-8.4	10-15	---	0-2	---
	11-21	15-18	10.0-15.0	7.9-8.4	25-40	---	0-2	---
	21-60	20-27	10.0-20.0	7.9-8.4	15-35	---	0-2	---
Borvant---------	0-7	12-18	10.0-20.0	7.9-8.4	35-40	---	0-2	---
	7-14	12-18	10.0-15.0	7.9-9.0	45-60	---	0-2	---
	14	---	---	---	---	---	---	---
Collard---------	0-9	18-27	10.0-25.0	6.6-7.3	---	---	---	---
	9-17	27-35	10.0-25.0	6.6-7.3	---	---	---	---
	17-28	12-18	5.0-15.0	6.6-7.8	---	---	---	---
	28-60	5-10	5.0-10.0	6.6-7.8	---	---	---	---
39:								
Donnardo--------	0-8	15-18	10.0-20.0	7.9-8.4	10-15	---	0-2	---
	8-24	18-22	10.0-15.0	7.9-9.0	25-40	---	0-2	---
	24-35	18-22	10.0-15.0	8.5-9.0	25-35	---	0-2	---
	35-60	18-22	10.0-15.0	8.5-9.0	25-35	---	0-2	---
Kapod-----------	0-4	18-27	10.0-25.0	7.4-7.8	0-5	---	---	---
	4-14	27-35	15.0-30.0	7.4-7.8	5-10	---	---	---
	14-20	27-35	15.0-30.0	7.9-8.4	5-10	---	---	---
	20-30	10-18	5.0-15.0	7.9-8.4	15-25	---	---	---
	30-60	18-27	5.0-15.0	7.9-8.4	15-25	---	---	---
40:								
Dune land.								
41:								
Erda------------	0-6	18-27	10.0-25.0	7.4-8.4	5-15	---	0-2	---
	6-18	18-27	10.0-20.0	7.4-8.4	10-20	---	0-2	---
	18-23	18-27	10.0-25.0	7.9-8.4	10-20	---	0-2	---
	23-38	18-27	10.0-20.0	7.9-8.4	15-30	---	0-2	---
	38-60	18-27	10.0-20.0	7.9-8.4	10-20	---	0-2	---
42:								
Escalante-------	0-19	10-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	19-33	10-18	10.0-20.0	8.5-9.0	20-25	---	2-4	---
	33-44	10-18	5.0-15.0	8.5-9.0	25-40	---	2-4	---
	44-46	15-25	5.0-15.0	8.5-9.0	15-25	---	2-4	---
	46-51	10-15	10.0-15.0	8.5-9.0	15-20	---	2-4	---
	51-60	18-27	10.0-15.0	7.9-8.4	15-20	---	2-4	---
43:								
Escalante-------	0-19	10-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	19-33	10-18	10.0-20.0	8.5-9.0	20-25	---	2-4	---
	33-44	10-18	5.0-15.0	8.5-9.0	25-40	---	2-4	---
	44-46	15-25	5.0-15.0	8.5-9.0	15-25	---	2-4	---
	46-51	10-15	10.0-15.0	8.5-9.0	15-20	---	2-4	---
	51-60	18-27	10.0-15.0	7.9-8.4	15-20	---	2-4	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
44:								
Escalante	0-10	10-15	10.0-15.0	7.4-8.4	10-15	---	0-2	---
	10-27	10-15	5.0-15.0	8.5-9.0	5-25	---	0-2	---
	27-60	10-15	5.0-15.0	8.5-9.0	20-30	---	0-2	---
Berent	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5
Escalante	0-5	5-15	5.0-10.0	7.4-7.8	---	---	0-2	---
	5-14	5-15	5.0-10.0	7.4-7.8	---	---	0-2	---
	14-20	5-15	5.0-10.0	7.4-7.8	15-25	---	0-2	---
	20-44	5-15	5.0-10.0	7.4-8.4	15-25	---	0-2	---
	44-60	5-15	5.0-10.0	7.9-8.4	15-25	---	0-2	---
45:								
Firmage	0-3	18-27	10.0-20.0	7.9-8.4	0-5	---	0-2	---
	3-16	27-35	10.0-25.0	7.9-9.0	5-15	---	0-2	---
	16-25	18-27	10.0-25.0	7.9-9.0	15-25	---	0-2	---
	25-43	18-27	10.0-20.0	7.9-9.0	25-35	---	0-2	---
	43-60	20-35	10.0-20.0	7.9-9.0	20-30	---	0-2	---
46:								
Firmage	0-3	18-27	10.0-20.0	7.9-8.4	0-5	---	0-2	---
	3-16	27-35	10.0-25.0	7.9-9.0	5-15	---	0-2	---
	16-25	18-27	10.0-25.0	7.9-9.0	15-25	---	0-2	---
	25-43	18-27	10.0-20.0	7.9-9.0	25-35	---	0-2	---
	43-60	20-35	10.0-20.0	7.9-9.0	20-30	---	0-2	---
Hiko Peak	0-9	10-18	5.0-15.0	7.9-8.4	10-20	---	0-2	---
	9-49	10-18	5.0-15.0	7.9-9.0	20-30	---	0-2	---
	49-60	10-18	5.0-10.0	7.9-8.4	15-20	---	0-2	---
47:								
Freedom	0-5	18-27	10.0-20.0	7.9-8.4	5-20	---	0-2	---
	5-12	18-27	10.0-20.0	7.9-8.4	10-20	---	0-2	---
	12-26	18-27	10.0-20.0	7.9-8.4	20-35	---	0-2	---
	26-60	18-35	10.0-25.0	8.5-9.0	20-30	---	0-2	---
48:								
Freedom	0-5	18-27	10.0-20.0	7.9-8.4	5-20	---	0-2	---
	5-12	18-27	10.0-20.0	7.9-8.4	10-20	---	0-2	---
	12-26	18-27	10.0-20.0	7.9-8.4	20-35	---	0-2	---
	26-60	18-35	10.0-25.0	8.5-9.0	20-30	---	0-2	---
49:								
Genola	0-3	18-27	10.0-20.0	7.9-8.4	10-20	---	0-2	---
	3-11	18-27	10.0-25.0	7.9-8.4	20-30	---	0-2	---
	11-60	18-27	10.0-20.0	7.9-9.0	20-40	---	0-2	---
50:								
Genola	0-3	18-27	10.0-20.0	7.9-8.4	10-20	---	0-2	---
	3-11	18-27	10.0-25.0	7.9-8.4	20-30	---	0-2	---
	11-60	18-27	10.0-20.0	7.9-9.0	20-40	---	0-2	---
51:								
Green River	0-3	10-18	5.0-20.0	7.9-8.4	0-10	---	2-4	0-5
	3-9	12-18	5.0-20.0	8.5-9.0	0-15	---	2-4	0-5
	9-18	10-18	5.0-10.0	8.5-9.0	10-15	---	2-4	0-5
	18-60	10-18	5.0-10.0	8.5-9.0	10-15	---	4-16	0-5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
51:								
Poganeab--------	0-4	18-27	5.0-20.0	7.9-8.4	5-10	---	2-4	1-5
	4-9	18-27	5.0-20.0	7.9-8.4	5-15	---	2-4	1-5
	9-48	27-35	10.0-25.0	7.9-9.0	10-15	---	4-16	5-10
	48-60	10-18	5.0-10.0	8.5-9.0	10-15	---	4-16	10-20
52:								
Heist-----------	0-14	10-18	5.0-15.0	7.4-7.8	0-5	---	0-2	---
	14-60	10-15	5.0-15.0	7.9-9.0	5-20	---	0-2	---
53:								
Heist-----------	0-14	10-18	5.0-15.0	7.4-7.8	0-5	---	0-2	---
	14-60	10-15	5.0-15.0	7.9-9.0	5-20	---	0-2	---
54:								
Heist-----------	0-23	5-10	5.0-15.0	7.4-7.8	0-10	---	0-2	---
	23-47	7-12	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	47-57	3-7	0.0-5.0	7.9-8.4	5-15	---	0-2	---
	57-60	3-7	0.0-5.0	7.9-8.4	5-15	---	0-2	---
Berent----------	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5
55:								
Heist-----------	0-23	5-10	5.0-15.0	7.4-7.8	0-10	---	0-2	---
	23-47	7-12	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	47-57	3-7	0.0-5.0	7.9-8.4	5-15	---	0-2	---
	57-60	3-7	0.0-5.0	7.9-8.4	5-15	---	0-2	---
Linoyer---------	0-3	12-18	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-9	12-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	9-52	12-18	5.0-15.0	7.9-8.4	15-20	---	0-2	---
	52-60	12-18	5.0-15.0	8.5-9.0	15-20	---	0-2	---
56:								
Hiko Peak-------	0-10	18-22	10.0-20.0	7.9-8.4	20-25	---	0-2	---
	10-22	18-22	10.0-15.0	7.9-8.4	25-35	---	0-2	---
	22-40	14-18	5.0-15.0	8.5-9.0	25-35	---	0-2	---
	40-60	18-22	10.0-15.0	8.5-9.0	15-25	---	0-2	---
57:								
Hiko Peak-------	0-3	10-18	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-16	15-18	10.0-20.0	8.5-9.0	5-15	---	0-2	---
	16-29	10-18	10.0-20.0	8.5-9.0	15-20	---	0-2	---
	29-43	10-18	10.0-20.0	8.5-9.0	15-25	---	0-2	---
	43-49	8-10	5.0-15.0	8.5-9.0	15-25	---	0-2	---
	49-60	5-10	5.0-10.0	8.5-9.0	10-15	---	0-2	---
58:								
Hiko Peak-------	0-4	14-18	10.0-15.0	8.5-9.0	10-15	---	0-2	---
	4-13	16-18	10.0-15.0	8.5-9.0	15-20	---	0-2	---
	13-27	14-18	5.0-15.0	8.5-9.0	20-25	---	0-2	---
	27-37	14-18	5.0-10.0	8.5-9.0	20-25	---	0-2	---
	37-60	8-12	5.0-10.0	8.5-9.0	15-20	---	0-2	---
59:								
Hiko Peak-------	0-4	12-18	5.0-10.0	7.9-8.4	10-20	---	0-2	---
	4-13	12-18	5.0-10.0	7.9-8.4	10-20	---	0-2	---
	13-20	12-18	5.0-10.0	7.9-8.4	20-40	---	0-4	---
	20-30	12-18	5.0-10.0	7.9-9.0	20-35	---	0-4	---
	30-60	10-18	5.0-10.0	7.9-9.0	10-20	---	0-4	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
60:								
Hiko Peak-------	0-9	10-18	5.0-15.0	7.9-8.4	10-20	---	0-2	---
	9-49	10-18	5.0-15.0	7.9-9.0	20-30	---	0-2	---
	49-60	10-18	5.0-10.0	7.9-8.4	15-20	---	0-2	---
61:								
Hiko Peak-------	0-9	10-18	5.0-15.0	7.9-8.4	10-20	---	0-2	---
	9-49	10-18	5.0-15.0	7.9-9.0	20-30	---	0-2	---
	49-60	10-18	5.0-10.0	7.9-8.4	15-20	---	0-2	---
Amtoft----------	0-8	18-27	10.0-20.0	7.9-9.0	50-70	---	---	---
	8-19	18-27	10.0-20.0	7.9-9.0	70-80	---	---	---
	19	---	---	---	---	---	---	---
62:								
Hiko Peak-------	0-4	12-18	5.0-10.0	7.9-8.4	10-20	---	0-2	---
	4-13	12-18	5.0-10.0	7.9-8.4	10-20	---	0-2	---
	13-20	12-18	5.0-10.0	7.9-8.4	20-40	---	0-4	---
	20-30	12-18	5.0-10.0	7.9-9.0	20-35	---	0-4	---
	30-60	10-18	5.0-10.0	7.9-9.0	10-20	---	0-4	---
Heist-----------	0-4	8-18	5.0-10.0	7.9-8.4	10-20	0-1	0-4	1-5
	4-36	5-18	5.0-10.0	7.9-9.0	10-20	0-1	0-4	10-30
	36-60	5-18	5.0-10.0	8.5-9.0	10-20	0-1	0-4	20-60
63:								
Hiko Peak-------	0-3	10-18	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-16	15-18	10.0-20.0	8.5-9.0	5-15	---	0-2	---
	16-29	10-18	10.0-20.0	8.5-9.0	15-20	---	0-2	---
	29-43	10-18	10.0-20.0	8.5-9.0	15-25	---	0-2	---
	43-49	8-10	5.0-15.0	8.5-9.0	15-25	---	0-2	---
	49-60	5-10	5.0-10.0	8.5-9.0	10-15	---	0-2	---
Heist-----------	0-14	10-18	5.0-15.0	7.4-7.8	0-5	---	0-2	---
	14-60	10-15	5.0-15.0	7.9-9.0	5-20	---	0-2	---
64:								
Hiko Peak-------	0-3	10-18	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-16	15-18	10.0-20.0	8.5-9.0	5-15	---	0-2	---
	16-29	10-18	10.0-20.0	8.5-9.0	15-20	---	0-2	---
	29-43	10-18	10.0-20.0	8.5-9.0	15-25	---	0-2	---
	43-49	8-10	5.0-15.0	8.5-9.0	15-25	---	0-2	---
	49-60	5-10	5.0-10.0	8.5-9.0	10-15	---	0-2	---
Heist-----------	0-14	10-18	5.0-15.0	7.4-7.8	0-5	---	0-2	---
	14-60	10-15	5.0-15.0	7.9-9.0	5-20	---	0-2	---
65:								
Hiko Peak-------	0-4	15-18	5.0-15.0	7.9-8.4	10-20	---	0-2	---
	4-8	12-18	5.0-15.0	7.9-9.0	15-25	---	0-2	---
	8-18	10-18	5.0-10.0	7.9-9.0	25-35	---	0-2	---
	18-60	10-18	5.0-10.0	8.5-9.0	20-25	---	0-2	---
Pibler----------	0-7	15-20	10.0-15.0	7.9-8.4	10-20	---	0-2	---
	7-12	15-27	10.0-20.0	8.5-9.0	20-30	---	---	---
	12	---	---	---	---	---	---	---
66:								
Jardal----------	0-4	5-18	5.0-15.0	7.9-8.4	5-15	---	0-2	---
	4-9	5-18	5.0-10.0	7.9-9.0	15-40	---	0-2	---
	9-26	5-18	5.0-10.0	8.5-9.0	40-60	---	0-2	---
	26-30	---	---	---	---	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
66:								
Donnardo--------	0-11	15-18	10.0-20.0	7.9-8.4	10-15	---	0-2	---
	11-21	15-18	10.0-15.0	7.9-8.4	25-40	---	0-2	---
	21-60	20-27	10.0-20.0	7.9-8.4	15-35	---	0-2	---
67:								
Jigsaw----------	0-4	18-27	10.0-20.0	7.9-8.4	15-20	18-27	0-2	---
	4-9	18-27	10.0-20.0	7.9-8.4	15-20	18-27	0-2	---
	9-32	27-35	15.0-25.0	7.9-8.4	20-25	27-35	0-2	---
	32-60	27-35	15.0-25.0	7.9-9.0	20-25	27-35	2-4	---
68:								
Jigsaw----------	0-4	18-27	10.0-20.0	7.9-8.4	15-20	18-27	0-2	---
	4-9	18-27	10.0-20.0	7.9-8.4	15-20	18-27	0-2	---
	9-32	27-35	15.0-25.0	7.9-8.4	20-25	27-35	0-2	---
	32-60	27-35	15.0-25.0	7.9-9.0	20-25	27-35	2-4	---
Oakcity---------	0-5	18-27	10.0-20.0	7.9-9.0	15-30	0-1	0-4	0-5
	5-10	27-35	10.0-25.0	7.9-9.0	15-30	0-1	0-4	0-5
	10-15	27-40	10.0-25.0	7.9-9.0	15-30	0-1	0-2	0-5
	15-60	40-50	15.0-30.0	7.9-11.0	15-30	0-1	2-8	0-5
69:								
Kanosh----------	0-4	10-18	5.0-15.0	7.9-8.4	5-10	5-10	8-16	0-5
	4-19	10-18	5.0-12.0	8.5-9.0	15-20	5-10	8-16	0-5
	19-30	10-18	5.0-12.0	8.5-9.0	20-30	15-20	16-32	0-5
	30-38	10-18	5.0-10.0	8.5-9.0	25-30	15-20	16-32	0-5
	38-60	10-18	5.0-10.0	8.5-9.0	20-25	15-20	16-32	0-5
70:								
Kapod-----------	0-4	18-27	10.0-25.0	7.4-7.8	0-5	---	---	---
	4-14	27-35	15.0-30.0	7.4-7.8	5-10	---	---	---
	14-20	27-35	15.0-30.0	7.9-8.4	5-10	---	---	---
	20-30	10-18	5.0-15.0	7.9-8.4	15-25	---	---	---
	30-60	18-27	5.0-15.0	7.9-8.4	15-25	---	---	---
71:								
Kapod-----------	0-4	18-27	10.0-25.0	7.4-7.8	0-5	---	---	---
	4-14	27-35	15.0-30.0	7.4-7.8	5-10	---	---	---
	14-20	27-35	15.0-30.0	7.9-8.4	5-10	---	---	---
	20-30	10-18	5.0-15.0	7.9-8.4	15-25	---	---	---
	30-60	18-27	5.0-15.0	7.9-8.4	15-25	---	---	---
Collard---------	0-8	18-27	10.0-25.0	7.4-7.8	---	---	0-2	---
	8-47	20-35	10.0-25.0	7.4-7.8	---	---	0-2	---
	47-60	10-18	5.0-15.0	7.4-7.8	---	---	0-2	---
72:								
Kapod-----------	0-4	18-27	10.0-25.0	7.4-7.8	0-5	---	---	---
	4-14	27-35	15.0-30.0	7.4-7.8	5-10	---	---	---
	14-20	27-35	15.0-30.0	7.9-8.4	5-10	---	---	---
	20-30	10-18	5.0-15.0	7.9-8.4	15-25	---	---	---
	30-60	18-27	5.0-15.0	7.9-8.4	15-25	---	---	---
Rock outcrop.								
73:								
Kessler---------	0-3	18-27	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-6	18-27	10.0-20.0	7.9-8.4	15-20	---	0-2	---
	6-15	18-27	10.0-20.0	7.9-8.4	30-35	---	0-2	---
	15-22	18-27	10.0-15.0	7.9-8.4	45-55	---	2-4	---
	22-43	18-27	5.0-15.0	8.5-9.0	70-80	---	2-4	---
	43-60	18-27	5.0-10.0	8.5-9.0	40-45	---	2-4	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
74:								
Kessler---------	0-3	18-27	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-6	18-27	10.0-20.0	7.9-8.4	15-20	---	0-2	---
	6-15	18-27	10.0-20.0	7.9-8.4	30-35	---	0-2	---
	15-22	18-27	10.0-15.0	7.9-8.4	45-55	---	2-4	---
	22-43	18-27	5.0-15.0	8.5-9.0	70-80	---	2-4	---
	43-60	18-27	5.0-10.0	8.5-9.0	40-45	---	2-4	---
75:								
Kessler---------	0-3	18-27	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-6	18-27	10.0-20.0	7.9-8.4	15-20	---	0-2	---
	6-15	18-27	10.0-20.0	7.9-8.4	30-35	---	0-2	---
	15-22	18-27	10.0-15.0	7.9-8.4	45-55	---	2-4	---
	22-43	18-27	5.0-15.0	8.5-9.0	70-80	---	2-4	---
	43-60	18-27	5.0-10.0	8.5-9.0	40-45	---	2-4	---
Linoyer---------	0-3	12-18	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-9	12-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	9-52	12-18	5.0-15.0	7.9-8.4	15-20	---	0-2	---
	52-60	12-18	5.0-15.0	8.5-9.0	15-20	---	0-2	---
76:								
Kidman----------	0-7	5-18	5.0-20.0	7.4-7.8	0-5	---	0-2	---
	7-13	5-18	5.0-15.0	7.4-8.4	5-10	---	0-2	---
	13-34	5-18	5.0-15.0	7.4-8.4	20-30	---	0-2	---
	34-60	5-18	5.0-15.0	7.4-8.4	5-20	---	0-2	---
Preston---------	0-18	5-10	2.0-10.0	7.4-8.4	0-10	---	0-2	---
	18-60	5-10	2.0-10.0	7.4-8.4	5-10	---	0-2	---
77:								
Kitchell--------	0-14	18-27	10.0-25.0	6.6-7.3	0-10	---	0-2	---
	14-22	18-27	10.0-25.0	6.6-7.3	20-30	---	0-2	---
	22-60	18-27	10.0-20.0	6.6-8.4	40-60	---	0-2	---
78:								
Kudlac----------	0-3	18-27	10.0-20.0	7.9-8.4	10-15	---	---	---
	3-6	27-35	12.0-23.0	7.9-8.4	15-20	---	2-4	---
	6-60	27-35	15.0-25.0	7.9-8.4	15-25	---	2-4	---
79:								
Larwood---------	0-4	10-18	5.0-10.0	6.6-7.3	5-10	---	---	---
	4-12	18-27	10.0-20.0	7.4-7.8	5-10	---	0-2	---
	12-19	18-27	10.0-20.0	7.9-8.4	15-20	---	0-2	---
	19-39	27-35	15.0-20.0	8.5-9.0	25-40	---	2-4	---
	39-45	18-27	10.0-15.0	8.5-9.0	20-30	---	2-4	---
	45-60	15-20	0.0-5.0	8.5-9.0	15-20	---	0-2	---
Berent----------	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5
80:								
Lava flows.								
Berent----------	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
81:								
Lava flows.								
Shotwell---------	0-3	18-27	10.0-20.0	7.9-8.4	10-25	---	0-2	---
	3-14	18-27	10.0-20.0	7.9-8.4	10-25	---	0-2	---
	14	---	---	---	---	---	---	---
82:								
Linoyer---------	0-3	12-18	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-9	12-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	9-52	12-18	5.0-15.0	7.9-8.4	15-20	---	0-2	---
	52-60	12-18	5.0-15.0	8.5-9.0	15-20	---	0-2	---
83:								
Linoyer---------	0-9	12-18	5.0-20.0	7.9-9.0	5-20	---	0-2	---
	9-60	12-18	5.0-15.0	7.9-9.0	10-30	---	0-2	---
84:								
Lizzant---------	0-10	18-27	10.0-25.0	7.9-8.4	20-30	---	---	---
	10-21	18-27	10.0-25.0	7.9-8.4	40-50	---	---	---
	21-31	18-27	10.0-25.0	7.9-9.0	45-60	---	---	---
	31-60	18-27	10.0-25.0	7.9-9.0	45-60	---	---	---
85:								
Lodar-----------	0-3	18-27	10.0-20.0	7.9-8.4	20-35	---	---	---
	3-10	18-27	5.0-15.0	7.9-8.4	25-40	---	---	---
	10-17	18-27	5.0-15.0	7.9-8.4	40-60	---	---	---
	17	---	---	---	---	---	---	---
86:								
Lodar-----------	0-3	18-27	10.0-20.0	7.9-8.4	20-35	---	---	---
	3-10	18-27	5.0-15.0	7.9-8.4	25-40	---	---	---
	10-17	18-27	5.0-15.0	7.9-8.4	40-60	---	---	---
	17	---	---	---	---	---	---	---
Kidman----------	0-7	5-18	5.0-20.0	7.4-7.8	0-5	---	0-2	---
	7-13	5-18	5.0-15.0	7.4-8.4	5-10	---	0-2	---
	13-34	5-18	5.0-15.0	7.4-8.4	20-30	---	0-2	---
	34-60	5-18	5.0-15.0	7.4-8.4	15-20	---	0-2	---
87:								
Lodar-----------	0-3	18-27	10.0-20.0	7.9-8.4	20-35	---	---	---
	3-10	18-27	5.0-15.0	7.9-8.4	25-40	---	---	---
	10-17	18-27	5.0-15.0	7.9-8.4	40-60	---	---	---
	17	---	---	---	---	---	---	---
Rock outcrop.								
88:								
Lonjon----------	0-2	18-27	5.0-20.0	7.4-8.4	5-10	---	---	---
	2-6	18-27	5.0-20.0	7.9-8.4	5-10	---	---	---
	6-12	18-27	10.0-20.0	7.9-8.4	15-25	---	---	---
	12-24	18-27	10.0-20.0	7.9-9.0	40-50	---	---	---
	24-37	18-27	10.0-20.0	7.9-9.0	40-60	---	---	---
	37	---	---	---	---	---	---	---
89:								
Manassa---------	0-5	18-27	5.0-20.0	8.5-9.0	15-20	---	8-16	15-20
	5-13	18-27	5.0-15.0	8.5-9.0	15-20	---	8-16	15-20
	13-27	18-27	5.0-15.0	8.5-9.0	20-25	---	8-16	15-20
	27-46	27-35	10.0-20.0	8.5-11.0	25-30	---	16-30	15-20
	46-60	18-27	5.0-10.0	8.5-11.0	25-30	---	16-30	15-20

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
90:								
Manassa----------	0-5	18-27	5.0-20.0	8.5-9.0	15-20	---	8-16	15-20
	5-13	18-27	5.0-15.0	8.5-9.0	15-20	---	8-16	15-20
	13-27	18-27	5.0-15.0	8.5-9.0	20-25	---	8-16	15-20
	27-46	27-35	10.0-20.0	8.5-11.0	25-30	---	16-30	15-20
	46-60	18-27	5.0-10.0	8.5-11.0	25-30	---	16-30	15-20
Mellor-----------	0-6	20-27	10.0-20.0	7.9-9.0	5-30	---	2-8	10-15
	6-21	27-35	10.0-25.0	8.5-11.0	10-30	0-2	8-32	15-35
	21-60	27-35	10.0-30.0	8.5-11.0	15-30	0-2	16-32	15-35
91:								
Medburn----------	0-4	10-18	5.0-15.0	7.9-9.0	10-15	---	0-2	0-5
	4-13	12-18	5.0-12.0	8.5-9.0	10-20	---	0-2	0-5
	13-30	10-18	5.0-12.0	8.5-11.0	10-20	---	0-4	0-10
	30-60	10-18	5.0-12.0	8.5-11.0	10-25	---	8-16	---
Berent-----------	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5
Escalante--------	0-19	10-18	5.0-15.0	7.9-8.4	5-10	---	0-2	---
	19-33	10-18	10.0-20.0	8.5-9.0	20-25	---	2-4	---
	33-44	10-18	5.0-15.0	8.5-9.0	25-40	---	2-4	---
	44-46	15-25	5.0-15.0	8.5-9.0	15-25	---	2-4	---
	46-51	10-15	10.0-15.0	8.5-9.0	15-20	---	2-4	---
	51-60	18-27	10.0-15.0	7.9-8.4	15-20	---	2-4	---
92:								
Memmott----------	0-18	18-27	10.0-20.0	7.9-9.0	15-40	---	0-4	1-5
	18-32	27-35	10.0-25.0	7.9-9.0	15-40	---	0-4	1-5
	32-52	27-35	10.0-22.0	7.9-9.0	15-40	---	0-4	1-5
	52-60	27-35	10.0-22.0	7.9-9.0	15-40	---	0-4	1-5
93:								
Musinia----------	0-4	18-27	10.0-25.0	7.9-8.4	20-25	---	0-2	---
	4-11	18-27	10.0-25.0	7.9-8.4	25-30	---	0-2	---
	11-22	18-27	10.0-25.0	7.9-8.4	25-30	---	0-2	---
	22-36	18-27	10.0-25.0	7.9-8.4	25-30	---	0-2	---
	36-60	27-35	10.0-20.0	7.9-8.4	25-30	---	0-2	---
94:								
Musinia----------	0-4	18-27	10.0-25.0	7.9-8.4	20-25	---	0-2	---
	4-11	18-27	10.0-25.0	7.9-8.4	25-30	---	0-2	---
	11-22	18-27	10.0-25.0	7.9-8.4	25-30	---	0-2	---
	22-36	18-27	10.0-25.0	7.9-8.4	25-30	---	0-2	---
	36-60	27-35	10.0-20.0	7.9-8.4	25-30	---	0-2	---
95:								
Oakcity----------	0-5	18-27	10.0-20.0	7.9-9.0	15-30	0-1	0-4	0-5
	5-10	27-35	10.0-25.0	7.9-9.0	15-30	0-1	0-4	0-5
	10-15	27-40	10.0-25.0	7.9-9.0	15-30	0-1	0-2	0-5
	15-60	40-50	15.0-30.0	7.9-11.0	15-30	0-1	2-8	0-5
96:								
Oasis------------	0-5	14-18	5.0-15.0	7.9-9.0	5-20	---	2-4	15-20
	5-13	10-18	5.0-15.0	8.5-9.0	5-20	---	2-4	15-30
	13-24	10-18	5.0-15.0	9.1-11.0	5-20	---	2-4	15-30
	24-36	10-18	5.0-15.0	9.1-11.0	5-20	---	2-4	15-40
	36-48	10-18	5.0-15.0	9.1-11.0	5-20	---	2-4	15-40
	48-60	5-8	1.0-5.0	9.1-11.0	5-20	---	2-4	15-40

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
97:								
Pibler----------	0-7	15-20	10.0-15.0	7.9-8.4	10-20	---	0-2	---
	7-12	15-27	10.0-20.0	8.5-9.0	20-30	---	---	---
	12	---	---	---	---	---	---	---
98:								
Pibler----------	0-7	15-20	10.0-15.0	7.9-8.4	10-20	---	0-2	---
	7-12	15-27	10.0-20.0	8.5-9.0	20-30	---	---	---
	12	---	---	---	---	---	---	---
Pober-----------	0-3	18-27	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-10	18-27	10.0-20.0	8.5-9.0	10-15	---	0-2	---
	10-23	18-27	5.0-20.0	7.9-9.0	20-40	---	0-2	---
	23-30	18-27	10.0-20.0	7.9-9.0	25-40	---	0-2	---
	30	---	---	---	---	---	---	---
99:								
Pober-----------	0-3	18-27	10.0-20.0	7.9-8.4	5-10	---	0-2	---
	3-10	18-27	10.0-20.0	8.5-9.0	10-15	---	0-2	---
	10-23	18-27	5.0-20.0	7.9-9.0	20-40	---	0-2	---
	23-30	18-27	10.0-20.0	7.9-9.0	25-40	---	0-2	---
	30	---	---	---	---	---	---	---
100:								
Pober-----------	0-6	6-10	5.0-10.0	7.9-8.4	5-10	---	0-2	---
	6-13	12-18	5.0-15.0	7.9-8.4	10-20	---	0-2	---
	13-21	12-18	5.0-10.0	7.9-8.4	20-35	---	0-2	---
	21-36	5-10	5.0-10.0	7.9-9.0	20-25	---	0-2	---
	36	---	---	---	---	---	---	---
Berent----------	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5
101:								
Pober-----------	0-6	6-10	5.0-10.0	7.9-8.4	5-10	---	0-2	---
	6-13	12-18	5.0-15.0	7.9-8.4	10-20	---	0-2	---
	13-21	12-18	5.0-10.0	7.9-8.4	20-35	---	0-2	---
	21-36	5-10	5.0-10.0	7.9-9.0	20-25	---	0-2	---
	36	---	---	---	---	---	---	---
Berent----------	0-8	2-5	5.0-10.0	7.4-7.8	5-15	---	0-2	1-5
	8-60	2-5	5.0-10.0	7.4-9.0	5-15	---	0-2	1-5
102:								
Preston---------	0-18	5-10	2.0-10.0	7.4-8.4	0-10	---	0-2	---
	18-60	5-10	2.0-10.0	7.4-8.4	5-10	---	0-2	---
103:								
Probert---------	0-4	18-27	10.0-25.0	7.9-8.4	5-15	---	0-2	---
	4-15	27-35	15.0-25.0	7.9-8.4	10-20	---	0-2	---
	15-24	27-35	15.0-25.0	7.9-8.4	25-35	---	0-2	---
	24-34	27-35	15.0-25.0	8.5-9.0	35-40	---	0-4	---
	34-60	15-20	10.0-20.0	8.5-9.0	25-35	---	0-4	---
104:								
Rock outcrop.								
Lodar-----------	0-3	18-27	10.0-20.0	7.9-8.4	20-35	---	---	---
	3-10	18-27	5.0-15.0	7.9-8.4	25-40	---	---	---
	10-17	18-27	5.0-15.0	7.9-8.4	40-60	---	---	---
	17	---	---	---	---	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
105:								
Rock outcrop.								
Shotwell--------	0-3	18-27	10.0-20.0	7.9-8.4	10-25	---	0-2	---
	3-14	18-27	10.0-20.0	7.9-8.4	10-25	---	0-2	---
	14	---	---	---	---	---	---	---
106:								
Rock outcrop.								
Soma------------	0-2	10-18	10.0-20.0	8.5-9.0	5-10	---	0-2	---
	2-6	10-18	10.0-20.0	8.5-9.0	5-15	---	0-2	---
	6-18	10-18	5.0-12.0	8.5-9.0	20-40	---	0-2	---
	18	---	---	---	---	---	---	---
107:								
Searla----------	0-3	18-27	10.0-25.0	7.4-7.8	0-5	---	---	---
	3-7	18-27	10.0-25.0	7.4-7.8	0-5	---	---	---
	7-16	27-35	10.0-25.0	7.4-8.4	0-5	---	---	---
	16-50	18-27	7.0-17.0	7.4-8.4	15-25	---	---	---
	50	---	---	---	---	---	---	---
Kapod-----------	0-4	18-27	10.0-25.0	7.4-7.8	0-5	---	---	---
	4-14	27-35	15.0-30.0	7.4-7.8	5-10	---	---	---
	14-20	27-35	15.0-30.0	7.9-8.4	5-10	---	---	---
	20-30	10-18	5.0-15.0	7.9-8.4	15-25	---	---	---
	30-60	18-27	5.0-15.0	7.9-8.4	15-25	---	---	---
108:								
Spager----------	0-2	15-18	5.0-15.0	7.9-8.4	35-40	---	0-2	---
	2-5	15-18	5.0-15.0	8.5-9.0	45-50	---	0-2	---
	5-11	12-18	5.0-15.0	8.5-9.0	60-65	---	0-2	---
	11	---	---	---	---	---	---	---
109:								
Sterling--------	0-4	18-24	10.0-25.0	7.9-8.4	0-5	---	0-2	---
	4-11	18-24	10.0-25.0	7.9-8.4	5-10	---	0-2	---
	11-18	18-24	10.0-20.0	7.9-8.4	5-20	---	0-2	---
	18-29	18-24	10.0-15.0	8.5-9.0	15-30	---	0-2	---
	29-60	16-20	5.0-10.0	8.5-9.0	10-15	---	0-2	---
110:								
Taylorsflat-----	0-5	18-27	10.0-20.0	7.9-8.4	10-15	---	0-2	---
	5-20	18-27	10.0-20.0	7.9-8.4	15-25	---	0-2	---
	20-33	27-35	15.0-25.0	8.5-9.0	20-30	---	0-2	---
	33-60	27-35	15.0-30.0	8.5-9.0	20-30	---	0-2	---
111:								
Taylorsflat-----	0-5	18-27	10.0-20.0	7.9-8.4	10-15	---	0-2	---
	5-20	18-27	10.0-20.0	7.9-8.4	15-25	---	0-2	---
	20-33	27-35	15.0-25.0	8.5-9.0	20-30	---	0-2	---
	33-60	27-35	15.0-30.0	8.5-9.0	20-30	---	0-2	---
112:								
Thiokol---------	0-5	18-27	10.0-20.0	7.9-9.0	5-10	---	2-4	---
	5-13	18-27	10.0-20.0	7.9-9.0	10-15	---	2-4	---
	13-29	18-27	10.0-20.0	8.5-9.0	35-40	---	4-8	10-15
	29-45	18-27	10.0-20.0	8.5-11.0	30-35	---	16-32	15-20
	45-60	18-27	10.0-20.0	8.5-11.0	25-30	---	16-32	15-30

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
113:								
Timpie----------	0-5	10-18	5.0-10.0	7.9-8.4	5-10	---	0-2	---
	5-11	18-27	10.0-20.0	8.5-9.0	5-10	---	0-2	---
	11-17	18-27	10.0-20.0	8.5-9.0	10-15	---	4-8	---
	17-35	18-27	10.0-20.0	8.5-9.0	10-15	---	8-16	0-5
	35-60	18-27	10.0-20.0	8.5-9.0	10-15	---	8-16	0-10
114:								
Timpie----------	0-5	10-18	5.0-10.0	7.9-8.4	5-10	---	0-2	---
	5-11	18-27	10.0-20.0	8.5-9.0	5-10	---	0-2	---
	11-17	18-27	10.0-20.0	8.5-9.0	10-15	---	4-8	---
	17-35	18-27	10.0-20.0	8.5-9.0	10-15	---	8-16	0-5
	35-60	18-27	10.0-20.0	8.5-9.0	10-15	---	8-16	0-10
Uvada-----------	0-2	18-27	10.0-20.0	8.5-9.0	15-20	---	2-4	5-10
	2-7	18-27	10.0-20.0	8.5-9.0	15-20	---	2-4	5-10
	7-10	27-35	10.0-25.0	9.1-11.0	20-25	---	4-8	5-10
	10-22	40-45	15.0-25.0	9.1-11.0	20-30	---	8-16	40-60
	22-31	40-45	15.0-25.0	8.5-9.0	15-20	---	8-16	40-65
	31-60	27-35	15.0-25.0	8.5-11.0	15-20	---	8-16	40-65
115:								
Tooele----------	0-4	5-8	5.0-10.0	7.9-8.4	5-20	---	2-4	0-10
	4-20	5-8	2.0-5.0	7.9-8.4	10-20	---	2-4	10-15
	20-39	10-18	10.0-15.0	8.5-9.0	15-20	---	4-8	13-20
	39-60	5-8	2.0-5.0	8.5-9.0	15-20	---	4-8	13-20
116:								
Uffens----------	0-4	3-10	1.0-10.0	7.9-8.4	10-15	---	2-4	5-10
	4-10	18-27	10.0-20.0	7.9-8.4	10-15	---	2-4	5-10
	10-16	27-35	15.0-25.0	8.5-9.0	15-20	---	4-8	15-20
	16-22	18-27	10.0-20.0	8.5-9.0	20-25	---	8-16	15-20
	22-28	15-20	5.0-15.0	8.5-9.0	15-20	---	8-16	15-20
	28-60	15-20	5.0-15.0	7.9-8.4	15-20	---	8-16	15-20
117:								
Uffens----------	0-3	18-27	10.0-20.0	7.9-8.4	10-15	---	2-4	5-10
	3-7	18-27	10.0-20.0	8.5-9.0	10-20	---	2-4	10-15
	7-13	27-35	15.0-25.0	9.1-11.0	20-25	---	8-16	15-40
	13-27	18-27	10.0-15.0	9.1-11.0	25-30	---	8-16	15-25
	27-60	18-27	10.0-15.0	8.5-9.0	20-25	---	8-16	15-20
118:								
Uvada-----------	0-4	27-35	10.0-25.0	7.9-9.0	10-15	---	2-4	5-10
	4-11	27-35	10.0-25.0	7.9-9.0	10-20	---	2-8	5-10
	11-20	35-40	15.0-30.0	9.1-9.6	20-25	---	8-16	40-65
	20-23	40-50	15.0-30.0	9.1-11.0	20-25	---	8-16	40-65
	23-43	27-40	15.0-30.0	9.1-9.6	15-20	---	8-16	40-65
	43-60	27-35	15.0-25.0	9.1-9.6	15-20	---	8-16	40-65
119:								
Uvada-----------	0-4	27-35	10.0-25.0	7.9-9.0	10-15	---	2-4	5-10
	4-11	27-35	10.0-25.0	7.9-9.0	10-20	---	2-8	5-10
	11-20	35-40	15.0-30.0	9.1-9.6	20-25	---	8-16	40-65
	20-23	40-50	15.0-30.0	9.1-11.0	20-25	---	8-16	40-65
	23-43	27-40	15.0-30.0	9.1-9.6	15-20	---	8-16	40-65
	43-60	27-35	15.0-25.0	9.1-9.6	15-20	---	8-16	40-65
Yenrab----------	0-5	5-10	0.0-5.0	7.9-8.4	5-15	---	2-8	15-20
	5-60	5-10	0.0-5.0	7.9-9.0	5-15	---	2-8	20-30

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
120:								
Woodrow----------	0-16	27-35	15.0-25.0	7.9-9.0	15-35	---	2-4	0-2
	16-60	27-35	10.0-25.0	7.9-9.0	15-35	0-2	2-4	1-5
121:								
Yenrab----------	0-5	5-10	0.0-5.0	7.9-8.4	5-15	---	2-8	15-20
	5-60	5-10	0.0-5.0	7.9-9.0	5-15	---	2-8	20-30
122:								
Yenrab----------	0-5	5-10	0.0-5.0	7.9-8.4	5-15	---	2-8	15-20
	5-60	5-10	0.0-5.0	7.9-9.0	5-15	---	2-8	20-30
Puddle----------	0-4	10-18	5.0-15.0	8.5-9.0	15-20	---	0-2	0-5
	4-11	10-18	5.0-15.0	9.1-11.0	20-25	---	2-4	0-5
	11-36	12-18	10.0-20.0	9.1-11.0	40-50	---	4-8	13-20
	36-60	10-18	5.0-15.0	8.5-9.0	45-50	---	4-8	13-20
123:								
Yenrab----------	0-5	5-10	0.0-5.0	7.9-8.4	5-15	---	2-8	15-20
	5-60	5-10	0.0-5.0	7.9-9.0	5-15	---	2-8	20-30
Uvada-----------	0-3	12-20	5.0-15.0	8.5-11.0	10-40	0-1	0-4	5-10
	3-23	40-50	15.0-30.0	9.1-11.0	15-40	0-1	8-16	40-65
	23-50	27-40	10.0-25.0	9.1-11.0	15-40	0-1	16-32	40-65
	50-60	8-12	3.0-7.0	8.5-11.0	15-40	0-1	16-32	40-65

Table 20.--Water Features

Map symbol and soil name	Hydro- logic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
1:							
Amtoft----------	D	None	---	---	>6.0	---	---
Rock outcrop.							
2:							
Amtoft----------	D	None	---	---	>6.0	---	---
Spager----------	D	None	---	---	>6.0	---	---
3:							
Ashdown---------	B	None	---	---	>6.0	---	---
4:							
Ashdown---------	B	None	---	---	>6.0	---	---
5:							
Atepic----------	D	None	---	---	>6.0	---	---
Rock outcrop.							
6:							
Atepic----------	D	None	---	---	>6.0	---	---
Sonlet----------	D	None	---	---	>6.0	---	---
7:							
Bandag----------	B	None	---	---	>6.0	---	---
8:							
Bandag----------	B	None	---	---	>6.0	---	---
9:							
Bandag----------	B	None	---	---	>6.0	---	---
Berent----------	A	None	---	---	>6.0	---	---
10:							
Beckstrand------	C	Rare	---	---	2.0-3.0	Apparent	Apr-Jun
Benstot---------	C	Rare	---	---	2.5-4.0	Apparent	Apr-Jun
11:							
Benstot---------	C	Rare	---	---	2.5-4.0	Apparent	Apr-Jun
Scipio----------	D	Rare	---	---	1.0-1.5	Apparent	May-Jul
12:							
Bentaxle--------	D	None	---	---	>6.0	---	---
Lodar-----------	D	None	---	---	>6.0	---	---
13:							
Bentaxle--------	D	None	---	---	>6.0	---	---
Rock outcrop.							
14:							
Berent----------	A	None	---	---	>6.0	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
15:							
Berent----------	A	None	---	---	>6.0	---	---
Oakcity---------	C	None	---	---	>6.0	---	---
Heist-----------	B	None	---	---	>6.0	---	---
16:							
Berent----------	A	None	---	---	>6.0	---	---
Taylorsflat-----	B	None	---	---	>6.0	---	---
Mellor----------	C	None	---	---	>6.0	---	---
17:							
Bonolden--------	B	None	---	---	>6.0	---	---
18:							
Bonolden--------	B	None	---	---	>6.0	---	---
Erda------------	B	None	---	---	>6.0	---	---
19:							
Borvant---------	D	None	---	---	>6.0	---	---
20:							
Borvant---------	D	None	---	---	>6.0	---	---
Jardal----------	C	None	---	---	>6.0	---	---
21:							
Borvant---------	D	None	---	---	>6.0	---	---
Jardal----------	C	None	---	---	>6.0	---	---
22:							
Borvant---------	D	None	---	---	>6.0	---	---
Pavant----------	D	None	---	---	>6.0	---	---
23:							
Boxelder--------	B	None	---	---	>6.0	---	---
24:							
Boxelder--------	B	None	---	---	>6.0	---	---
25:							
Calita----------	B	None	---	---	>6.0	---	---
Erda------------	B	None	---	---	>6.0	---	---
26:							
Calita----------	B	None	---	---	>6.0	---	---
Erda------------	B	None	---	---	>6.0	---	---
27:							
Cessna----------	B	None	---	---	>6.0	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
28:							
Checkett--------	D	None	---	---	>6.0	---	---
Amtoft----------	D	None	---	---	>6.0	---	---
29:							
Church Springs--	B	None	---	---	>6.0	---	---
30:							
Cloyd-----------	D	None	---	---	>6.0	---	---
Rock outcrop.							
31:							
Collard---------	B	None	---	---	>6.0	---	---
32:							
Curdli----------	B	None	---	---	>6.0	---	---
33:							
Current Spring--	C	None	---	---	>6.0	---	---
34:							
Current Spring--	C	None	---	---	>6.0	---	---
Maple Hollow----	C	None	---	---	>6.0	---	---
35:							
Current Spring--	C	None	---	---	>6.0	---	---
Maple Hollow----	C	None	---	---	>6.0	---	---
36:							
Deseret---------	C	None	---	---	5.0-6.0	Apparent	May-Oct
37:							
Donnardo--------	B	None	---	---	>6.0	---	---
38:							
Donnardo--------	B	None	---	---	>6.0	---	---
Borvant---------	D	None	---	---	>6.0	---	---
Collard---------	B	None	---	---	>6.0	---	---
39:							
Donnardo--------	B	None	---	---	>6.0	---	---
Kapod-----------	B	None	---	---	>6.0	---	---
40:							
Dune land.							
41:							
Erda------------	B	None	---	---	>6.0	---	---
42:							
Escalante-------	B	None	---	---	>6.0	---	---
43:							
Escalante-------	B	None	---	---	>6.0	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
44:							
Escalante--------	B	None	---	---	>6.0	---	---
Berent-----------	A	None	---	---	>6.0	---	---
Escalante--------	B	None	---	---	>6.0	---	---
45:							
Firmage----------	C	None	---	---	>6.0	---	---
46:							
Firmage----------	C	None	---	---	>6.0	---	---
Hiko Peak--------	B	None	---	---	>6.0	---	---
47:							
Freedom----------	B	None	---	---	>6.0	---	---
48:							
Freedom----------	B	None	---	---	>6.0	---	---
49:							
Genola-----------	B	None	---	---	>6.0	---	---
50:							
Genola-----------	B	None	---	---	>6.0	---	---
51:							
Green River------	C	Occasional	Brief	Apr-Jun	3.0-4.0	Apparent	May-Aug
Poganeab---------	D	Occasional	Brief	Apr-Jun	0.5-1.5	Apparent	May-Aug
52:							
Heist------------	B	None	---	---	>6.0	---	---
53:							
Heist------------	B	None	---	---	>6.0	---	---
54:							
Heist------------	B	None	---	---	>6.0	---	---
Berent-----------	A	None	---	---	>6.0	---	---
55:							
Heist------------	B	None	---	---	>6.0	---	---
Linoyer----------	B	None	---	---	>6.0	---	---
56:							
Hiko Peak--------	B	None	---	---	>6.0	---	---
57:							
Hiko Peak--------	B	None	---	---	>6.0	---	---
58:							
Hiko Peak--------	B	None	---	---	>6.0	---	---
59:							
Hiko Peak--------	B	None	---	---	>6.0	---	---
60:							
Hiko Peak--------	B	None	---	---	>6.0	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
61:							
Hiko Peak--------	B	None	---	---	>6.0	---	---
Amtoft-----------	D	None	---	---	>6.0	---	---
62:							
Hiko Peak--------	B	None	---	---	>6.0	---	---
Heist------------	B	None	---	---	>6.0	---	---
63:							
Hiko Peak--------	B	None	---	---	>6.0	---	---
Heist------------	B	None	---	---	>6.0	---	---
64:							
Hiko Peak--------	B	None	---	---	>6.0	---	---
Heist------------	B	None	---	---	>6.0	---	---
65:							
Hiko Peak--------	B	None	---	---	>6.0	---	---
Pibler-----------	D	None	---	---	>6.0	---	---
66:							
Jardal-----------	C	None	---	---	>6.0	---	---
Donnardo---------	B	None	---	---	>6.0	---	---
67:							
Jigsaw-----------	B	None	---	---	>6.0	---	---
68:							
Jigsaw-----------	B	None	---	---	>6.0	---	---
Oakcity----------	C	None	---	---	>6.0	---	---
69:							
Kanosh-----------	C	None	---	---	1.5-3.5	Apparent	May-Oct
70:							
Kapod------------	B	None	---	---	>6.0	---	---
71:							
Kapod------------	B	None	---	---	>6.0	---	---
Collard----------	B	None	---	---	>6.0	---	---
72:							
Kapod------------	B	None	---	---	>6.0	---	---
Rock outcrop.							
73:							
Kessler----------	C	None	---	---	>6.0	---	---
74:							
Kessler----------	C	None	---	---	>6.0	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
75:							
Kessler----------	C	None	---	---	>6.0	---	---
Linoyer----------	B	None	---	---	>6.0	---	---
76:							
Kidman-----------	B	None	---	---	>6.0	---	---
Preston----------	A	None	---	---	>6.0	---	---
77:							
Kitchell---------	B	None	---	---	>6.0	---	---
78:							
Kudlac-----------	C	None	---	---	>6.0	---	---
79:							
Larwood----------	C	None	---	---	>6.0	---	---
Berent-----------	A	None	---	---	>6.0	---	---
80:							
Lava flows.							
Berent-----------	A	None	---	---	>6.0	---	---
81:							
Lava flows.							
Shotwell---------	D	None	---	---	>6.0	---	---
82:							
Linoyer----------	B	None	---	---	>6.0	---	---
83:							
Linoyer----------	B	None	---	---	>6.0	---	---
84:							
Lizzant----------	B	None	---	---	>6.0	---	---
85:							
Lodar------------	D	None	---	---	>6.0	---	---
86:							
Lodar------------	D	None	---	---	>6.0	---	---
Kidman-----------	B	None	---	---	>6.0	---	---
87:							
Lodar------------	D	None	---	---	>6.0	---	---
Rock outcrop.							
88:							
Lonjon-----------	C	None	---	---	>6.0	---	---
89:							
Manassa----------	C	None	---	---	>6.0	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
90:							
Manassa----------	C	None	---	---	>6.0	---	---
Mellor-----------	C	None	---	---	>6.0	---	---
91:							
Medburn----------	B	None	---	---	>6.0	---	---
Berent-----------	A	None	---	---	>6.0	---	---
Escalante--------	B	None	---	---	>6.0	---	---
92:							
Memmott----------	B	None	---	---	2.5-3.5	Apparent	Jun-Aug
93:							
Musinia----------	B	None	---	---	>6.0	---	---
94:							
Musinia----------	B	None	---	---	>6.0	---	---
95:							
Oakcity----------	C	None	---	---	>6.0	---	---
96:							
Oasis------------	B	None	---	---	>6.0	---	---
97:							
Pibler-----------	D	None	---	---	>6.0	---	---
98:							
Pibler-----------	D	None	---	---	>6.0	---	---
Pober------------	C	None	---	---	>6.0	---	---
99:							
Pober------------	C	None	---	---	>6.0	---	---
100:							
Pober------------	B	None	---	---	>6.0	---	---
Berent-----------	A	None	---	---	>6.0	---	---
101:							
Pober------------	B	None	---	---	>6.0	---	---
Berent-----------	A	None	---	---	>6.0	---	---
102:							
Preston----------	A	None	---	---	>6.0	---	---
103:							
Probert----------	B	None	---	---	>6.0	---	---
104:							
Rock outcrop.							
Lodar------------	D	None	---	---	>6.0	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
105:							
Rock outcrop.							
Shotwell	D	None	---	---	>6.0	---	---
106:							
Rock outcrop.							
Soma	D	None	---	---	>6.0	---	---
107:							
Searla	C	None	---	---	>6.0	---	---
Kapod	B	None	---	---	>6.0	---	---
108:							
Spager	D	None	---	---	>6.0	---	---
109:							
Sterling	B	None	---	---	>6.0	---	---
110:							
Taylorsflat	B	None	---	---	>6.0	---	---
111:							
Taylorsflat	B	None	---	---	>6.0	---	---
112:							
Thiokol	B	None	---	---	>6.0	---	---
113:							
Timpie	B	None	---	---	>6.0	---	---
114:							
Timpie	B	None	---	---	>6.0	---	---
Uvada	C	None	---	---	>6.0	---	---
115:							
Tooele	B	None	---	---	>6.0	---	---
116:							
Uffens	B	None	---	---	>6.0	---	---
117:							
Uffens	B	None	---	---	>6.0	---	---
118:							
Uvada	D	None	---	---	>6.0	---	---
119:							
Uvada	D	None	---	---	>6.0	---	---
Yenrab	A	None	---	---	>6.0	---	---
120:							
Woodrow	B	None	---	---	>6.0	---	---
121:							
Yenrab	A	None	---	---	>6.0	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Flooding			High water table		
		Frequency	Duration	Months	Depth	Kind	Months
					Ft		
122:							
Yenrab----------	A	None	---	---	>6.0	---	---
Puddle----------	B	None	---	---	>6.0	---	---
123:							
Yenrab----------	A	None	---	---	>6.0	---	---
Uvada-----------	D	None	---	---	>6.0	---	---

Table 21.--Soil Features

Map symbol and soil name	Bedrock		Cemented pan		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind		Uncoated steel	Concrete
	In		In				
1:							
Amtoft	10-20	Hard	---	---	Moderate	Moderate	Low.
Rock outcrop.							
2:							
Amtoft	10-20	Hard	---	---	Moderate	Moderate	Low.
Spager	>60	---	10-20	Thick	Low	High	Moderate.
3:							
Ashdown	>60	---	---	---	Low	High	Moderate.
4:							
Ashdown	>60	---	---	---	Low	High	Moderate.
5:							
Atepic	10-20	Soft	---	---	Low	High	Low.
Rock outcrop.							
6:							
Atepic	10-20	Soft	---	---	Low	High	Low.
Sonlet	10-20	Hard	---	---	Moderate	High	Low.
7:							
Bandag	>60	---	---	---	Low	High	Moderate.
8:							
Bandag	>60	---	---	---	Low	High	Moderate.
9:							
Bandag	>60	---	---	---	Low	High	Moderate.
Berent	>60	---	---	---	Low	High	Moderate.
10:							
Beckstrand	>60	---	---	---	Moderate	High	Moderate.
Benstot	>60	---	---	---	Moderate	High	Moderate.
11:							
Benstot	>60	---	---	---	Moderate	High	Moderate.
Scipio	>60	---	---	---	Moderate	Moderate	Moderate.
12:							
Bentaxle	10-20	Hard	---	---	Moderate	High	Moderate.
Lodar	10-20	Hard	---	---	Moderate	High	Moderate.
13:							
Bentaxle	10-20	Hard	---	---	Moderate	High	Moderate.
Rock outcrop.							
14:							
Berent	>60	---	---	---	Low	High	Moderate.

Table 21.--Soil Features--Continued

Map symbol and soil name	Bedrock		Cemented pan		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind		Uncoated steel	Concrete
	In		In				
15:							
Berent----------	>60	---	---	---	Low---------	High--------	Moderate.
Oakcity---------	>60	---	---	---	Moderate----	High--------	Moderate.
Heist-----------	>60	---	---	---	Moderate----	High--------	Moderate.
16:							
Berent----------	>60	---	---	---	Low---------	High--------	Moderate.
Taylorsflat-----	>60	---	---	---	Moderate----	High--------	High.
Mellor----------	>60	---	---	---	Moderate----	High--------	High.
17:							
Bonolden--------	>60	---	---	---	Moderate----	Moderate----	Moderate.
18:							
Bonolden--------	>60	---	---	---	Moderate----	Moderate----	Moderate.
Erda------------	>60	---	---	---	Moderate----	High--------	Moderate.
19:							
Borvant---------	>60	---	10-20	Thick	Low---------	High--------	Low.
20:							
Borvant---------	>60	---	10-20	Thick	Low---------	High--------	Low.
Jardal----------	>60	---	20-40	Thick	Moderate----	High--------	Moderate.
21:							
Borvant---------	>60	---	10-20	Thick	Low---------	High--------	Low.
Jardal----------	>60	---	20-40	Thick	Moderate----	High--------	Moderate.
22:							
Borvant---------	>60	---	10-20	Thick	Low---------	High--------	Low.
Pavant----------	>60	---	10-20	Thick	Moderate----	High--------	Moderate.
23:							
Boxelder--------	>60	---	---	---	Moderate----	High--------	Moderate.
24:							
Boxelder--------	>60	---	---	---	Moderate----	High--------	Moderate.
25:							
Calita----------	>60	---	---	---	Moderate----	High--------	Moderate.
Erda------------	>60	---	---	---	Moderate----	High--------	Moderate.
26:							
Calita----------	>60	---	---	---	Moderate----	High--------	Moderate.
Erda------------	>60	---	---	---	Moderate----	High--------	Moderate.
27:							
Cessna----------	>60	---	---	---	Moderate----	High--------	Moderate.

Table 21.--Soil Features--Continued

Map symbol and soil name	Bedrock		Cemented pan		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind		Uncoated steel	Concrete
	In		In				
28:							
Checkett--------	14-20	Hard	---	---	Moderate----	Moderate----	Low.
Amtoft----------	10-20	Hard	---	---	Moderate----	Moderate----	Low.
29:							
Church Springs--	>60	---	---	---	Moderate----	High--------	Moderate.
30:							
Cloyd-----------	14-20	Hard	---	---	Moderate----	Moderate----	Moderate.
Rock outcrop.							
31:							
Collard---------	>60	---	---	---	Moderate----	Moderate----	Low.
32:							
Curdli----------	>60	---	---	---	Moderate----	High--------	High.
33:							
Current Spring--	>60	---	---	---	Moderate----	High--------	Moderate.
34:							
Current Spring--	>60	---	---	---	Moderate----	High--------	Moderate.
Maple Hollow----	>60	---	---	---	Moderate----	Moderate----	Moderate.
35:							
Current Spring--	>60	---	---	---	Moderate----	High--------	Moderate.
Maple Hollow----	>60	---	---	---	Moderate----	Moderate----	Moderate.
36:							
Deseret---------	>60	---	---	---	Moderate----	High--------	High.
37:							
Donnardo--------	>60	---	---	---	Moderate----	High--------	Low.
38:							
Donnardo--------	>60	---	---	---	Moderate----	High--------	Low.
Borvant---------	>60	---	10-20	Thick	Low---------	High--------	Low.
Collard---------	>60	---	---	---	Moderate----	Moderate----	Low.
39:							
Donnardo--------	>60	---	---	---	Moderate----	High--------	Low.
Kapod-----------	>60	---	---	---	Moderate----	Moderate----	Low.
40:							
Dune land.							
41:							
Erda------------	>60	---	---	---	Moderate----	High--------	Moderate.
42:							
Escalante-------	>60	---	---	---	Moderate----	High--------	Moderate.

Table 21.--Soil Features--Continued

Map symbol and soil name	Bedrock		Cemented pan		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind		Uncoated steel	Concrete
	In		In				
43:							
Escalante-------	>60	---	---	---	Moderate----	High--------	Moderate.
44:							
Escalante-------	>60	---	---	---	Low---------	High--------	Low.
Berent----------	>60	---	---	---	Low---------	High--------	Moderate.
Escalante-------	>60	---	---	---	Low---------	High--------	Moderate.
45:							
Firmage---------	>60	---	---	---	Low---------	High--------	Low.
46:							
Firmage---------	>60	---	---	---	Low---------	High--------	Low.
Hiko Peak-------	>60	---	---	---	Moderate----	High--------	Moderate.
47:							
Freedom---------	>60	---	---	---	Moderate----	Moderate----	Moderate.
48:							
Freedom---------	>60	---	---	---	Moderate----	Moderate----	Moderate.
49:							
Genola----------	>60	---	---	---	High--------	High.	Moderate.
50:							
Genola----------	>60	---	---	---	High--------	High.	Moderate.
51:							
Green River-----	>60	---	---	---	High--------	High.	High.
Poganeab--------	>60	---	---	---	High--------	High.	High.
52:							
Heist-----------	>60	---	---	---	Moderate----	High--------	Moderate.
53:							
Heist-----------	>60	---	---	---	Moderate----	High--------	Moderate.
54:							
Heist-----------	>60	---	---	---	Low---------	High--------	Moderate.
Berent----------	>60	---	---	---	Low---------	High--------	Moderate.
55:							
Heist-----------	>60	---	---	---	Low---------	High--------	Moderate.
Linoyer---------	>60	---	---	---	Moderate----	High--------	Moderate.
56:							
Hiko Peak-------	>60	---	---	---	Low---------	High--------	Low.
57:							
Hiko Peak-------	>60	---	---	---	Low---------	High--------	Moderate.
58:							
Hiko Peak-------	>60	---	---	---	Low---------	High--------	Low.

Table 21.--Soil Features--Continued

Map symbol and soil name	Bedrock		Cemented pan		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind		Uncoated steel	Concrete
	In		In				
59:							
Hiko Peak-------	>60	---	---	---	Moderate----	High--------	Moderate.
60:							
Hiko Peak-------	>60	---	---	---	Moderate----	High--------	Moderate.
61:							
Hiko Peak-------	>60	---	---	---	Moderate----	High--------	Moderate.
Amtoft----------	10-20	Hard	---	---	Moderate----	Moderate----	Low.
62:							
Hiko Peak-------	>60	---	---	---	Moderate----	High--------	Moderate.
Heist-----------	>60	---	---	---	Moderate----	High--------	Moderate.
63:							
Hiko Peak-------	>60	---	---	---	Low---------	High--------	Moderate.
Heist-----------	>60	---	---	---	Moderate----	High--------	Moderate.
64:							
Hiko Peak-------	>60	---	---	---	Low---------	High--------	Moderate.
Heist-----------	>60	---	---	---	Moderate----	High--------	Moderate.
65:							
Hiko Peak-------	>60	---	---	---	Moderate----	High--------	Moderate.
Pibler----------	>60	---	10-20	Thick	Moderate----	High--------	Moderate.
66:							
Jardal----------	>60	---	20-40	Thick	Moderate----	High--------	Moderate.
Donnardo--------	>60	---	---	---	Moderate----	High--------	Low.
67:							
Jigsaw----------	>60	---	---	---	Moderate----	High--------	Moderate.
68:							
Jigsaw----------	>60	---	---	---	Moderate----	High--------	Moderate.
Oakcity---------	>60	---	---	---	Moderate----	High--------	Moderate.
69:							
Kanosh----------	>60	---	---	---	High--------	High.	High.
70:							
Kapod-----------	>60	---	---	---	Moderate----	Moderate----	Low.
71:							
Kapod-----------	>60	---	---	---	Moderate----	Moderate----	Low.
Collard---------	>60	---	---	---	Moderate----	High--------	Low.
72:							
Kapod-----------	>60	---	---	---	Moderate----	Moderate----	Low.
Rock outcrop.							

Table 21.--Soil Features--Continued

Map symbol and soil name	Bedrock		Cemented pan		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind		Uncoated steel	Concrete
	In		In				
73:							
Kessler---------	>60	---	---	---	Moderate----	High--------	Moderate.
74:							
Kessler---------	>60	---	---	---	Moderate----	High--------	Moderate.
75:							
Kessler---------	>60	---	---	---	Moderate----	High--------	Moderate.
Linoyer---------	>60	---	---	---	Moderate----	High--------	Moderate.
76:							
Kidman----------	>60	---	---	---	Moderate----	High--------	Moderate.
Preston---------	>60	---	---	---	Low---------	High--------	Low.
77:							
Kitchell--------	>60	---	---	---	Moderate----	High--------	Moderate.
78:							
Kudlac----------	>60	---	---	---	Moderate----	High--------	Moderate.
79:							
Larwood---------	>60	---	---	---	Moderate----	High--------	Moderate.
Berent----------	>60	---	---	---	Low---------	High--------	Moderate.
80:							
Lava flows.							
Berent----------	>60	---	---	---	Low---------	High--------	Moderate.
81:							
Lava flows.							
Shotwell--------	10-20	Hard	---	---	Low---------	Moderate----	Low.
82:							
Linoyer---------	>60	---	---	---	Moderate----	High--------	Moderate.
83:							
Linoyer---------	>60	---	---	---	Low---------	High--------	Moderate.
84:							
Lizzant---------	>60	---	---	---	Moderate----	High--------	Low.
85:							
Lodar-----------	10-20	Hard	---	---	Moderate----	High--------	Moderate.
86:							
Lodar-----------	10-20	Hard	---	---	Moderate----	High--------	Moderate.
Kidman----------	>60	---	---	---	Moderate----	High--------	Moderate.
87:							
Lodar-----------	10-20	Hard	---	---	Moderate----	High--------	Moderate.
Rock outcrop.							

Table 21.--Soil Features--Continued

Map symbol and soil name	Bedrock		Cemented pan		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind		Uncoated steel	Concrete
	In		In				
88:							
Lonjon	20-40	Hard	---	---	Moderate	High	Moderate.
89:							
Manassa	>60	---	---	---	Moderate	High	High.
90:							
Manassa	>60	---	---	---	Moderate	High	High.
Mellor	>60	---	---	---	Moderate	High	High.
91:							
Medburn	>60	---	---	---	Low	High	High.
Berent	>60	---	---	---	Low	High	Moderate.
Escalante	>60	---	---	---	Moderate	High	Moderate.
92:							
Memmott	>60	---	---	---	High	High.	High.
93:							
Musinia	>60	---	---	---	Moderate	High	Moderate.
94:							
Musinia	>60	---	---	---	Moderate	High	Moderate.
95:							
Oakcity	>60	---	---	---	Moderate	High	Moderate.
96:							
Oasis	>60	---	---	---	Moderate	High	High.
97:							
Pibler	>60	---	10-20	Thick	Moderate	High	Moderate.
98:							
Pibler	>60	---	10-20	Thick	Moderate	High	Moderate.
Pober	>60	---	20-40	Thick	Low	High	Low.
99:							
Pober	>60	---	20-40	Thick	Low	High	Low.
100:							
Pober	>60	---	20-40	Thick	Moderate	High	Low.
Berent	>60	---	---	---	Low	High	Moderate.
101:							
Pober	>60	---	20-40	Thick	Moderate	High	Low.
Berent	>60	---	---	---	Low	High	Moderate.
102:							
Preston	>60	---	---	---	Low	High	Low.
103:							
Probert	>60	---	---	---	Moderate	High	Moderate.

Table 21.--Soil Features--Continued

Map symbol and soil name	Bedrock		Cemented pan		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind		Uncoated steel	Concrete
	In		In				
104:							
Rock outcrop.							
Lodar	10-20	Hard	---	---	Moderate	High	Moderate.
105:							
Rock outcrop.							
Shotwell	10-20	Hard	---	---	Low	Moderate	Low.
106:							
Rock outcrop.							
Soma	15-20	Hard	---	---	Moderate	High	Moderate.
107:							
Searla	40-60	Hard	---	---	Moderate	High	Moderate.
Kapod	>60	---	---	---	Moderate	Moderate	Low.
108:							
Spager	>60	---	10-20	Thick	Low	High	Moderate.
109:							
Sterling	>60	---	---	---	Moderate	Moderate	Moderate.
110:							
Taylorsflat	>60	---	---	---	Moderate	High	Moderate.
111:							
Taylorsflat	>60	---	---	---	Moderate	High	Moderate.
112:							
Thiokol	>60	---	---	---	Moderate	High	High.
113:							
Timpie	>60	---	---	---	Moderate	High	High.
114:							
Timpie	>60	---	---	---	Moderate	High	High.
Uvada	>60	---	---	---	Moderate	High	High.
115:							
Tooele	>60	---	---	---	Low	High	High.
116:							
Uffens	>60	---	---	---	Moderate	High	High.
117:							
Uffens	>60	---	---	---	Moderate	High	High.
118:							
Uvada	>60	---	---	---	Low	High	High.
119:							
Uvada	>60	---	---	---	Low	High	High.
Yenrab	>60	---	---	---	Low	High	High.

Table 21.--Soil Features--Continued

Map symbol and soil name	Bedrock		Cemented pan		Potential frost action	Risk of corrosion	
	Depth	Hardness	Depth	Kind		Uncoated steel	Concrete
	In		In				
120:							
Woodrow----------	>60	---	---	---	High---------	High---------	Moderate.
121:							
Yenrab----------	>60	---	---	---	Low----------	High---------	High.
122:							
Yenrab----------	>60	---	---	---	Low----------	High---------	High.
Puddle----------	>60	---	---	---	Low----------	High---------	High.
123:							
Yenrab----------	>60	---	---	---	Low----------	High---------	High.
Uvada-----------	>60	---	---	---	Low----------	High---------	High.

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Glossary

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvial flat. A nearly level, graded, alluvial surface in a broad valley.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil.

Backslope. The geomorphic component that forms the steepest inclined surface and principal element of many hillsides. In profile, backslopes are commonly linear and may or may not include cliff segments.

Bajada. A broad alluvial slope extending from the base of a mountain range out into a basin and formed by coalescence of separate alluvial fans.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation-exchange capacity.

Basin. A low area in the earth's crust, of tectonic origin, in which sediment has accumulated.

Basin floor. A general term for the nearly level, lowermost part of intermontane basins.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Blowout. A shallow depression from which all or most of the soil material has been removed by wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte. An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche. A more or less cemented deposit of calcium carbonate in soils of warm-temperate, subhumid to arid areas. Caliche occurs as soft, thin layers in the soil or as hard, thick beds directly beneath the solum, or it is exposed at the surface by erosion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Canyon. A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Channery soil material. Soil material that is, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clayey soil. Silty clay, sandy clay, or clay.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Closed depression. A low area completely surrounded by higher ground and having no natural outlet.

Coarse fragments. Mineral or rock particles larger than 2 millimeters in diameter.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that is 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material is 35 to 60 percent of these rock fragments, and extremely cobbly soil material is more than 60 percent.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane that typically takes the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded to subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coppice dune. A small dune of fine grained soil material stabilized around shrubs or small trees.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cuesta. A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deep soil. A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Desert pavement. On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained.* These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. An area of ground at a lower elevation than the surrounding ground and in which water collects and is drained to a closed depression or lake or to another drainageway at a lower elevation. A drainageway may or may not have distinctly incised channels at its upper reaches or throughout its course.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune. A mound, ridge, or hill of loose, windblown, granular material (generally sand), either bare or covered with vegetation.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Excess lime (in tables). Excess carbonates in the soil that restrict the growth of some plants.

Excess salts (in tables). Excess water-soluble salts in the soil that restrict the growth of most plants.

Excess sodium (in tables). Excess exchangeable sodium in the soil. The resulting poor physical properties restrict the growth of plants.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity.*

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Flaggy soil material. Material that is, by volume, 15 to 35 percent flagstones. Very flaggy soil material is 35 to 60 percent flagstones, and extremely flaggy soil material is more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The inclined surface at the base of a hill.

Forb. Any herbaceous plant not a grass or a sedge.

Fragile (in tables). A soil that is easily damaged by use or disturbance.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Ground water. Water filling all the unblocked pores of underlying material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Gypsum. A mineral consisting of hydrous calcium sulfate.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head out. To form a flower head.

Heavy metal. Inorganic substances that are solid at ordinary temperatures and are not soluble in water. They form basic oxides and hydroxides. Examples are copper, iron, cadmium, zinc, manganese, lead, and arsenic.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Hillslope. The steeper part of a hill between the summit and the foot.

Holocene. The epoch of the Quaternary Period of geologic time, extending from the end of the Pleistocene (about 10 to 12 thousand years ago) to the present.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain. A surface marking the floor of an extinct lake, filled in by well-sorted, stratified sediment.

Lake terrace. A narrow shelf, partly cut and partly built up, produced along a lake shore and later exposed when the water level falls.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches

(7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Lava flow. A solidified body of rock formed from the lateral, surficial outpouring of molten lava from a vent or fissure.

Leaching. The removal of soluble material from soil or other material by percolating water.

Limestone. A sedimentary rock consisting of more than 50 percent calcium carbonate. Limestone is usually formed by a combination of organic and inorganic processes and includes chemical and clastic constituents. Many areas of limestone contain fossils.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loamy soil. Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately deep soil. A soil that is 20 to 40 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Mountain slope. The part of a mountain between the summit and the foot.

Muck. Dark, finely divided, well decomposed organic soil material.

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Observed rooting depth. Depth to which roots have been observed to penetrate.

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Oxbow. The horseshoe-shaped channel of a former meander, remaining after the stream formed a cutoff across a narrow meander neck.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan.*

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block. (See Structural unit.)

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	less than 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Playa. The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Quartzite, metamorphic. Rock consisting mainly of quartz that formed through recrystallization of quartz-rich sandstone or chert.

Quaternary. The geologic period from about 1.8 million years ago to the present. Includes the Pleistocene and Holocene (Recent) epochs.

Range condition. The present composition of the plant community on a range site in relation to the potential natural plant community for that site. Range condition is expressed as excellent, good, fair, or poor on the basis of how much the present plant community has departed from the potential.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Range site. An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other range sites in kind or proportion of species or total production.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relict stream terrace. One of a series of platforms in or adjacent to a stream valley that formed prior to the current stream system.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Ridge. A long, narrow elevation of the land surface, usually sharp crested with steep sides and forming an extended upland between valleys. The term is used in areas of both hill and mountain relief.

Rill. A steep-sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Riser. The relatively short, steeply sloping area below a terrace tread that grades to a lower terrace tread or base level.

Riverwash. Unstable areas of sandy, silty, clayey, or gravelly sediment. These areas are flooded, washed, and reworked by rivers so frequently that they support little or no vegetation.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop. Exposures of bare bedrock other than lava flows and rock-lined pits.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Rubbleland. Areas that have more than 90 percent of the surface covered by stones or boulders. Voids contain no soil material and virtually no vegetation other than lichens. The areas commonly are at the base of mountain slopes, but some are on mountain slopes as deposits of cobbles, stones, and boulders left by Pleistocene glaciation or by periglacial phenomena.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs the growth of plants. A saline soil does not contain excess exchangeable sodium.

Salinity. The electrical conductivity of a saline soil. It is expressed, in millimhos per centimeter, as follows:

Nonsaline	0 to 2
Very slightly saline	2 to 4
Slightly saline	4 to 8
Moderately saline	8 to 16
Strongly saline	More than 16

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sandy soil. Sand or loamy sand.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Shallow soil. A soil that is 10 to 20 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder slope. The uppermost inclined surface at the top of a hillside or mountainside. It is the transition zone from the backslope to the summit of a hill or mountain. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slippage (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. Because of differences in landscapes, the slope range of individual map units may not exactly fit the classes recognized for the survey. In this survey the following slope classes are recognized:

Nearly level	0 to 2 percent
Gently sloping	2 to 5 percent
Moderately sloping	5 to 8 percent
Strongly sloping	8 to 15 percent
Moderately steep	15 to 35 percent
Steep	35 to 50 percent
Very steep	50 percent and higher

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow intake (in tables). The slow movement of water into the soil.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^+ to $Ca^{++} + Mg^{++}$.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Species. A single, distinct kind of plant or animal having certain distinguishing characteristics.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stream channel. The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel. It originally formed near the level of the stream and is the dissected remnants of an abandoned flood plain, streambed, or valley floor that were produced during a former stage of erosion or deposition.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are: *platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Structural unit. Any repetitive soil body that is commonly bounded by planes or zones of weakness that are not an apparent consequence of compositional differences. A structural unit that is the consequence of soil development is called a ped. (See Ped.)

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. A general term for the top, or highest level, of an upland feature, such as a hill or mountain. It commonly refers to a higher area that is gently sloping and is flanked by steeper slopes.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Tertiary. The geologic period from about 65 million years ago to about 1.8 million years ago.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay.* The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The outermost inclined surface at the base of a hill; part of a footslope.

Too arid (in tables). The soil is dry most of the time, and vegetation is difficult to establish.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Toxicity (in tables). Excessive amount of toxic substances, such as sodium or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Trafficability. The degree to which a soil is capable of supporting vehicular traffic across a wide range in soil moisture conditions.

Travertine. A form of limestone deposited from solution in ground water and surface water. Extremely porous or cellular varieties are known as calcareous tufa, calcareous sinter, or spring deposits. Compact, banded varieties, which can be polished, are called onyx marble. Travertine forms the stalactites and stalagmites of limestone caves and fills some veins and hot springs conduits.

Tread. The relatively flat terrace surface that was cut or built up by stream or wave action.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley. An elongated depressional area primarily developed by stream action.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Very deep soil. A soil that is more than 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Very shallow soil. A soil that is less than 10 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

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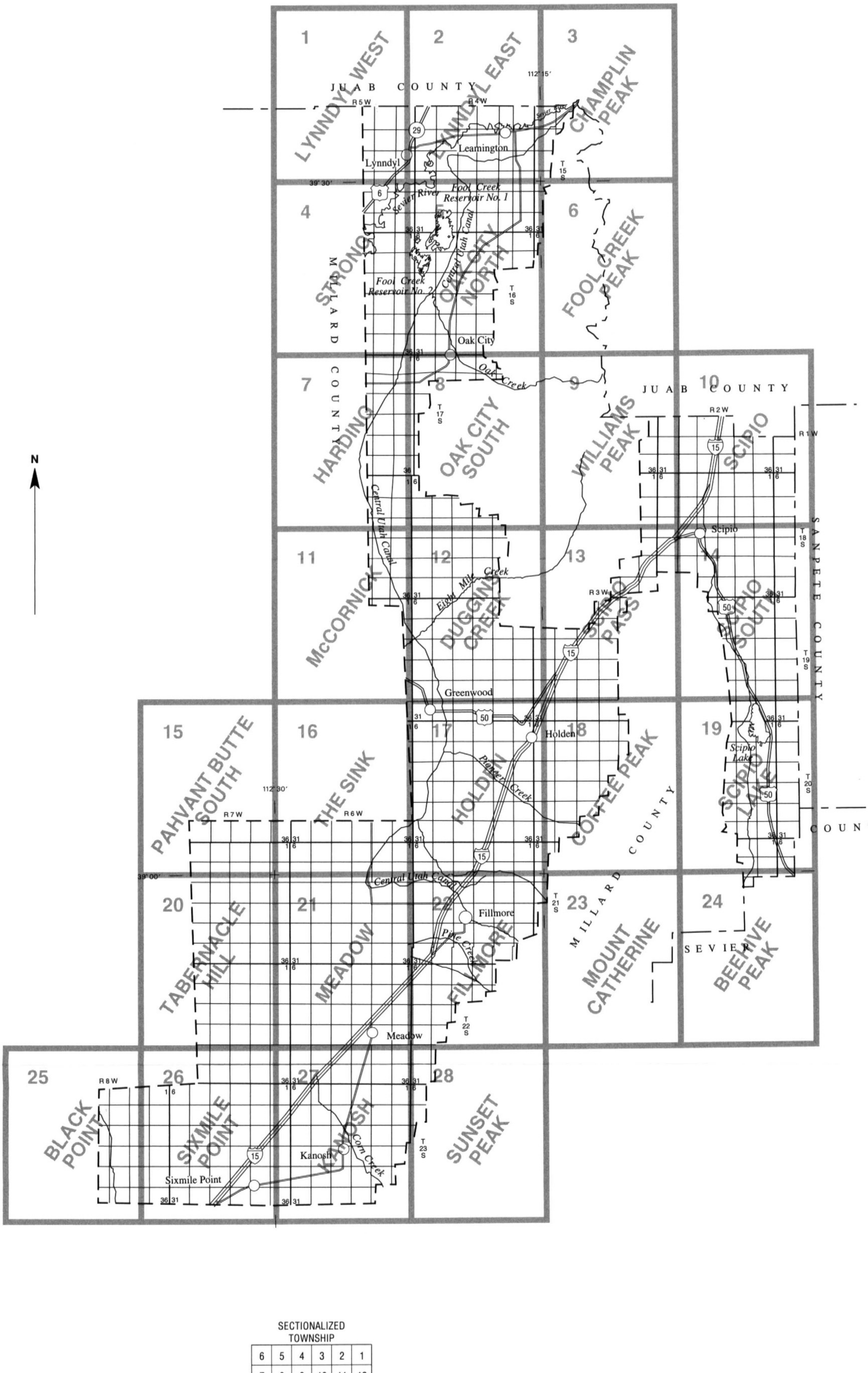
N
1 LYNNDYL WEST
2 LYNNDYL EAST
3 CHAMPLIN PEAK
4 STRONG
5 OAK CITY NORTH
6 FOOL CREEK PEAK
7 HARDING
8 OAK CITY SOUTH
9 WILLIAMS PEAK
10 SCIPIO
11 McCORNICK
12 DUGGINS CREEK
13 SCIPIO PASS
14 SCIPIO SOUTH
15 PAHVANT BUTTE SOUTH
16 THE SINK
17 HOLDEN
18 COFFEE PEAK
19 SCIPIO LAKE
20 TABERNACLE HILL
21 MEADOW
22 FILLMORE
23 MOUNT CATHERINE
24 BEEHIVE PEAK
25 BLACK POINT
26 SIXMILE POINT
27 KANOSH
28 SUNSET PEAK
JUAB COUNTY
MILLARD COUNTY
SANPETE COUNTY
SEVIER COUNTY
112° 15′
112° 30′
39° 30′
39° 00′
R 5 W
R 4 W
R 3 W
R 2 W
R 1 W
R 6 W
R 7 W
R 8 W
T 15 S
T 16 S
T 17 S
T 18 S
T 19 S
T 20 S
T 21 S
T 22 S
T 23 S
36 31
1 6
Lynndyl
Leamington
Sevier River
Fool Creek Reservoir No. 1
Fool Creek Reservoir No. 2
Central Utah Canal
Oak City
Oak Creek
Eight Mile Creek
Scipio
Scipio Lake
Greenwood
Holden
Pioneer Creek
Fillmore
Pine Creek
Meadow
Kanosh
Corn Creek
Sixmile Point
6
29
15
50

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

INDEX TO MAP SHEETS
MILLARD COUNTY, UTAH, EASTERN PART

Scale 1:316800

1 0 1 2 3

MILES

1 0 1 2 3 4 5 6

KILOMETERS

SOIL LEGEND

The publication symbols are in numeric order that matches the alphabetical listing of the approved map unit names.

SYMBOL	NAME	SYMBOL	NAME
1	Amtoft-Rock outcrop complex, 8 to 35 percent slopes	63	Hiko Peak-Heist complex, 0 to 2 percent slopes
2	Amtoft-Spager complex, 15 to 30 percent slopes	64	Hiko Peak-Heist complex, 2 to 8 percent slopes
3	Ashdown loam, 0 to 2 percent slopes	65	Hiko Peak-Pibler complex, 2 to 15 percent slopes
4	Ashdown loam, 2 to 5 percent slopes	66	Jardal-Donnardo complex, 2 to 15 percent slopes
5	Atepic-Rock outcrop complex, 10 to 50 percent slopes	67	Jigsaw silt loam, 2 to 5 percent slopes
6	Atepic-Sonlet association, 30 to 60 percent slopes	68	Jigsaw-Oakcity complex, 0 to 2 percent slopes
7	Bandag loam, 0 to 2 percent slopes	69	Kanosh very fine sandy loam, 0 to 2 percent slopes
8	Bandag loam, 2 to 5 percent slopes	70	Kapod very stony loam, 2 to 15 percent slopes
9	Bandag-Berent complex, 0 to 8 percent slopes	71	Kapod-Collard complex, 2 to 15 percent slopes
10	Beckstrand-Benstot complex, 0 to 2 percent slopes	72	Kapod-Rock outcrop complex, 30 to 50 percent slopes
11	Benstot-Scipio complex, 0 to 2 percent slopes	73	Kessler silt loam 0 to 2 percent slopes
12	Bentaxle-Lodar complex, 15 to 50 percent slopes	74	Kessler silt loam, 2 to 8 percent slopes
13	Bentaxle-Rock outcrop complex, 35 to 70 percent slopes	75	Kessler-Linoyer complex, 0 to 2 percent slopes
14	Berent loamy fine sand, 5 to 30 percent slopes	76	Kidman-Preston complex, 2 to 30 percent slopes
15	Berent-Oakcity-Heist complex, 0 to 15 percent slopes	77	Kitchell gravelly loam, 40 to 70 percent slopes
16	Berent-Taylorsflat-Mellor complex, 0 to 15 percent slopes	78	Kudlac silt loam, 15 to 50 percent slopes
17	Bonolden silt loam, 0 to 5 percent slopes	79	Larwood-Berent complex, 0 to 8 percent slopes
18	Bonolden-Erda complex, 0 to 3 percent slopes	80	Lava flows-Berent complex, 0 to 10 percent slopes
19	Borvant very gravelly loam, 15 to 40 percent slopes	81	Lava flows-Shotwell complex, 0 to 8 percent slopes
20	Borvant-Jardal complex, 15 to 40 percent slopes	82	Linoyer loam, 0 to 2 percent slopes
21	Borvant-Jardal complex, 5 to 15 percent slopes	83	Linoyer very fine sandy loam, 2 to 5 percent slopes
22	Borvant-Pavant complex, 2 to 15 percent slopes	84	Lizzant extremely cobbly loam, 30 to 60 percent slopes
23	Boxelder silt loam, 0 to 2 percent slopes	85	Lodar extremely stony loam, 20 to 50 percent slopes
24	Boxelder silt loam, 2 to 5 percent slopes	86	Lodar-Kidman complex, 15 to 50 percent slopes
25	Calita-Erda complex, 0 to 2 percent slopes	87	Lodar-Rock outcrop complex, 50 to 70 percent slopes
26	Calita-Erda complex, 2 to 8 percent slopes	88	Lonjon stony loam, 30 to 60 percent slopes
27	Cessna loam, 0 to 5 percent slopes	89	Manassa silt loam, 0 to 2 percent slopes
28	Checkett-Amtoft complex, 8 to 35 percent slopes	90	Manassa-Mellor silt loams, 0 to 2 percent slopes
29	Church Springs silt loam, 3 to 10 percent slopes	91	Medburn-Berent-Escalante complex, 0 to 8 percent slopes
30	Cloyd-Rock outcrop complex, 5 to 20 percent slopes	92	Memmott silt loam, 0 to 2 percent slopes
31	Collard gravelly loam, 2 to 5 percent slopes	93	Musinia silt loam, 0 to 2 percent slopes
32	Curdli loam, 0 to 2 percent slopes	94	Musinia silt loam, 2 to 5 percent slopes
33	Current Spring gravelly loam, 30 to 50 percent slopes	95	Oakcity loam, 0 to 2 percent slopes
34	Current Spring-Maple Hollow complex, 5 to 15 percent slopes	96	Oasis loam, 0 to 2 percent slopes
35	Current Spring-Maple Hollow complex, 15 to 30 percent slopes	97	Pibler gravelly fine sandy loam, 2 to 15 percent slopes
36	Deseret silt loam, 0 to 1 percent slopes	98	Pibler-Pober complex, 2 to 15 percent slopes
37	Donnardo very stony loam, 2 to 15 percent slopes	99	Pober gravelly loam, 2 to 15 percent slopes
38	Donnardo-Borvant-Collard complex, 2 to 5 percent slopes	100	Pober-Berent complex, 2 to 8 percent slopes
39	Donnardo-Kapod complex, 2 to 15 percent slopes	101	Pober-Berent complex, 8 to 30 percent slopes
40	Dune land	102	Preston fine sand, 2 to 30 percent slopes
41	Erda silt loam, 2 to 5 percent slopes	103	Probert loam, 2 to 8 percent slopes
42	Escalante sandy loam, 0 to 2 percent slopes	104	Rock outcrop-Lodar complex, 15 to 50 percent slopes
43	Escalante sandy loam, 2 to 5 percent slopes	105	Rock outcrop-Shotwell complex, 5 to 20 percent slopes
44	Escalante-Berent-Escalante complex, 2 to 15 percent slopes	106	Rock outcrop-Soma complex, 30 to 60 percent slopes
45	Firmage loam, 2 to 8 percent slopes	107	Searla-Kapod complex, 15 to 30 percent slopes
46	Firmage-Hiko Peak complex, 2 to 15 percent slopes	108	Spager gravelly very fine sandy loam, 5 to 15 percent slopes
47	Freedom silt loam, 0 to 2 percent slopes	109	Sterling loam, 2 to 10 percent slopes
48	Freedom silt loam, 2 to 5 percent slopes	110	Taylorsflat loam, 0 to 2 percent slopes
49	Genola silt loam, 0 to 2 percent slopes	111	Taylorsflat loam, 2 to 5 percent slopes
50	Genola silt loam, 2 to 5 percent slopes	112	Thiokol silt loam, 0 to 5 percent slopes
51	Green River-Poganeab complex, 0 to 3 percent slopes	113	Timpie fine sandy loam, 0 to 2 percent slopes
52	Heist fine sandy loam, 0 to 2 percent slopes	114	Timpie-Uvada complex, 0 to 2 percent slopes
53	Heist fine sandy loam, 2 to 5 percent slopes	115	Tooele loamy fine sand, 0 to 3 percent slopes
54	Heist-Berent complex, 0 to 15 percent slopes	116	Uffens loamy fine sand, 0 to 2 percent slopes
55	Heist-Linoyer complex, 0 to 8 percent slopes	117	Uffens silt loam, 2 to 8 percent slopes
56	Hiko Peak extremely stony loam, 4 to 15 percent slopes	118	Uvada clay loam, 0 to 2 percent slopes
57	Hiko Peak fine sandy loam, 2 to 8 percent slopes	119	Uvada-Yenrab complex, 0 to 10 percent slopes
58	Hiko Peak gravelly loam, 2 to 15 percent slopes	120	Woodrow silty clay loam, 0 to 2 percent slopes
59	Hiko Peak gravelly loam, 20 to 50 percent slopes	121	Yenrab loamy fine sand, 0 to 10 percent slopes
60	Hiko Peak stony fine sandy loam, 5 to 15 percent slopes	122	Yenrab-Puddle complex, 0 to 10 percent slopes
61	Hiko Peak-Amtoft complex, 8 to 35 percent slopes	123	Yenrab-Uvada complex, 0 to 10 percent slopes
62	Hiko Peak-Heist association, 2 to 15 percent slopes	124	Water

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

County or parish

Reservation (national forest or park, state forest or park, and large airport)

Land grant

Limit of soil survey (label)

Field sheet matchline and neatline

AD HOC BOUNDARY (label) — Davis Airstri

Small airport, airfield, park, oilfield, cemetery, or flood pool — FLOOD POOL LINE

STATE COORDINATE TICK
1 890 000 FEET

LAND DIVISION CORNER (sections and land grants) — └ ┴ ┼ ┼

ROADS

Divided (median shown if scale permits) — ═

ROAD EMBLEM & DESIGNATIONS

Interstate — 173

Federal — 287

State — 52

County, farm or ranch — 1283

RAILROAD

PITS

Gravel pit — ⚒

WATER FEATURES

DRAINAGE

Perennial, single line

Intermittent

Drainage end

LAKES, PONDS AND RESERVOIRS

Perennial — water w

Intermittent — int i

MISCELLANEOUS WATER FEATURES

Marsh or swamp

Spring — o~

Wet spot — Ψ

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS — 49 78

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
LYNNDYL WEST QUADRANGLE
SHEET NUMBER 1 OF 28

112° 30′00″
112° 27′30″
112° 25′00″
112° 22′30″
39° 37′30″
39° 37′30″
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39° 32′30″
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39° 30′00″
JUAB COUNTY
T. 14 S.
T. 15 S.
LIMIT OF SOIL SURVEY
(Joins sheet 2)
(Joins sheet 4)
R. 6 W.
R. 5 W.
Lynndyl
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121
121
121
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78
78
78
78
119
119
117

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1975 aerial photography.

North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

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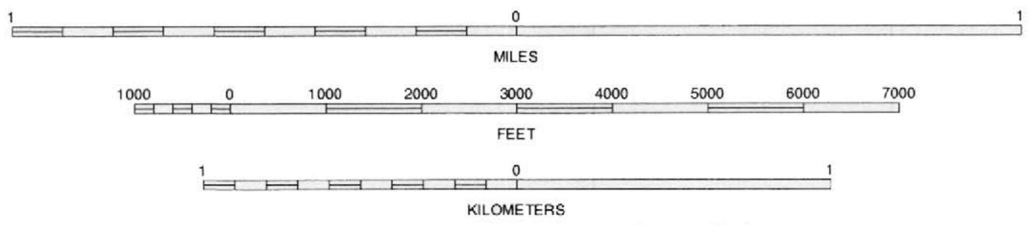
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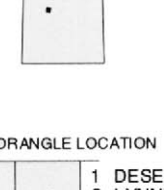
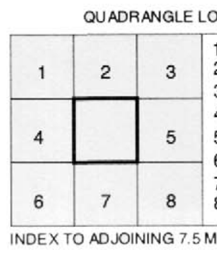
MILLARD COUNTY, UTAH, EASTERN PART NO. 1



LYNNDYL WEST, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 1 OF 28

QUADRANGLE LOCATION

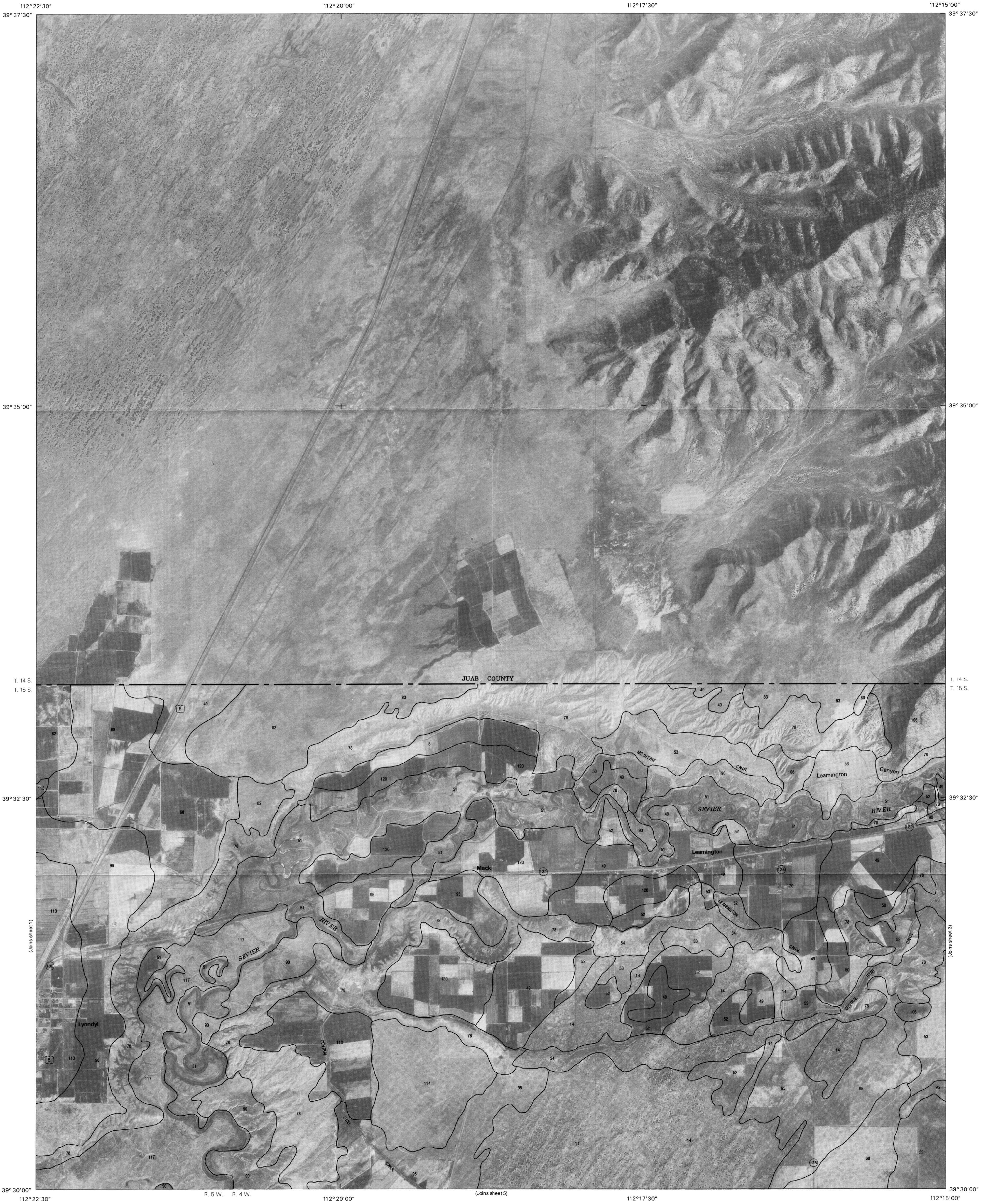


1 DESERT MOUNTAIN RESERVOIR
2 LYNNDYL NW
3 TANNER CREEK NARROWS
4 RAIN LAKE
5 LYNNDYL EAST
6 DELTA NE
7 STRONG
8 OAK CITY NORTH

INDEX TO ADJOINING 7.5 MAPS

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
LYNNDYL EAST QUADRANGLE
SHEET NUMBER 2 OF 28



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39° 35'00"
39° 32'30"
39° 30'00"
T. 14 S.
T. 15 S.
JUAB COUNTY
McINTYRE
CANAL
Leamington
Canyon
SEVIER
RIVER
Leamington
Mack
LEAMINGTON
CANAL
CENTRAL
UTAH
CANAL
Lynndyl
6
132
125
(Joins sheet 1)
(Joins sheet 3)
(Joins sheet 5)
R. 5 W.
R. 4 W.
14
49
50
51
52
53
54
60
68
78
82
83
90
95
96
106
113
114
117
120

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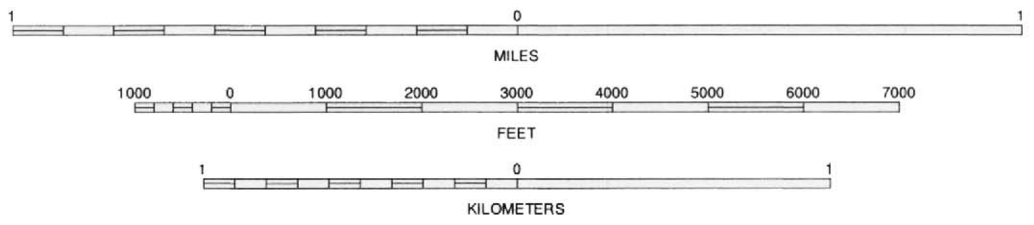

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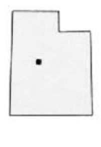
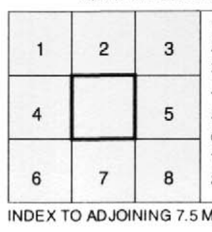
MILLARD COUNTY, UTAH, EASTERN PART NO. 2



LYNNDYL EAST, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 2 OF 28

QUADRANGLE LOCATION



1 LYNNDYL NW
2 TANNER CREEK NARROWS
3 JERICHO
4 LYNNDYL WEST
5 CHAMPLIN PEAK
6 STRONG
7 OAK CITY NORTH
8 FOOL CREEK PEAK

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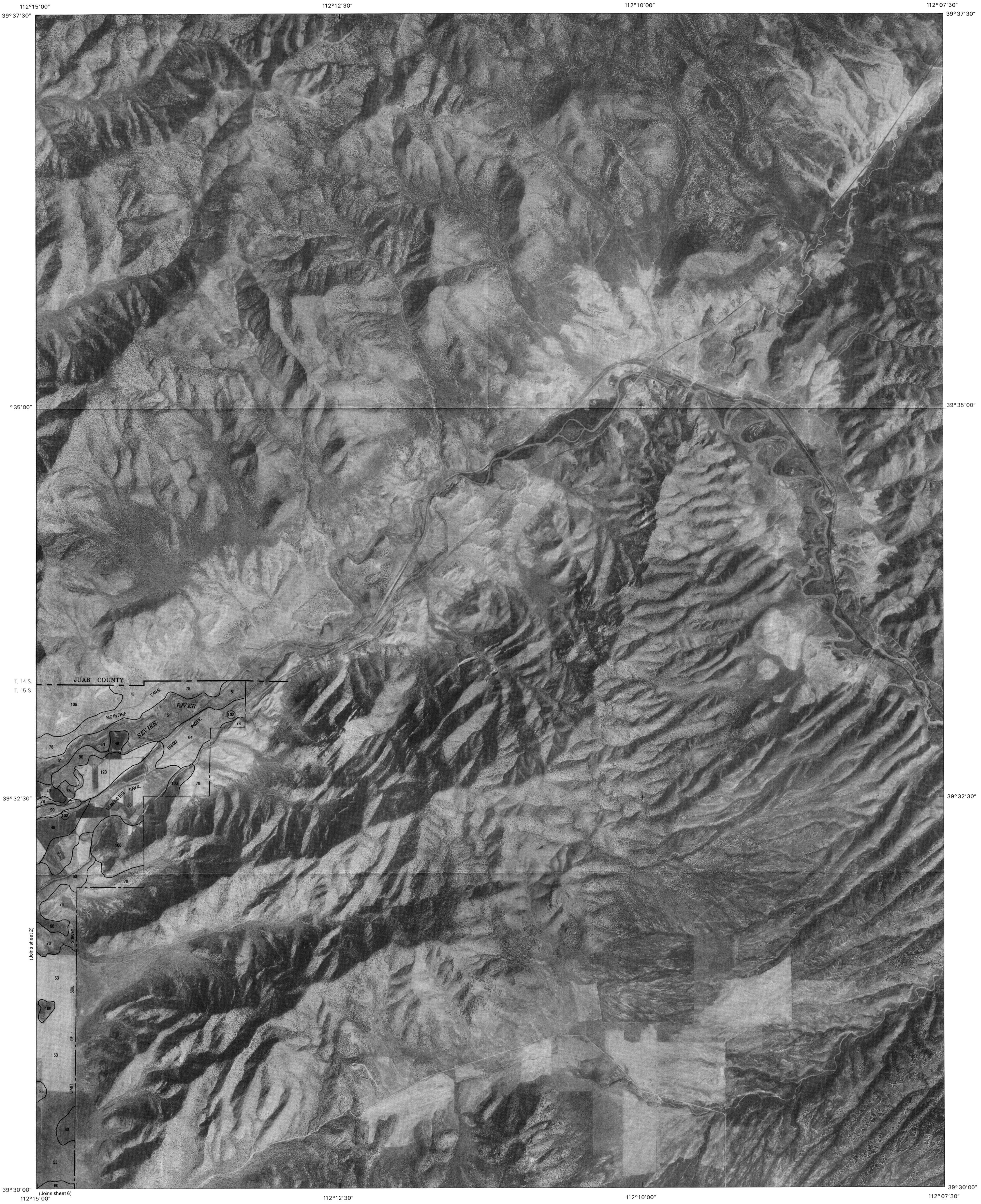
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
CHAMPLIN PEAK QUADRANGLE
SHEET NUMBER 3 OF 28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112°07′30″
T. 14 S.
T. 15 S.
JUAB COUNTY
MC INTYRE CANAL
SEVIER RIVER
UNION PACIFIC
LEAMINGTON CANAL
LIMIT OF SOIL SURVEY
(Joins sheet 2)
(Joins sheet 6)
106
78
78
51
51
132
78
64
78
51
49
90
51
120
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78
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78
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132
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106
50
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106
53
95
60
53
60

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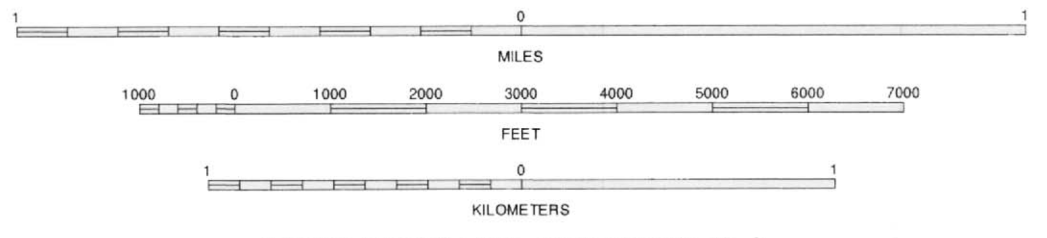
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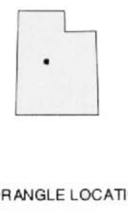
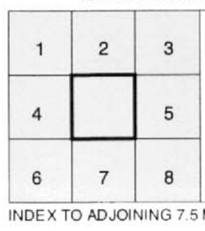
MILLARD COUNTY, UTAH, EASTERN PART NO. 3



QUADRANGLE LOCATION



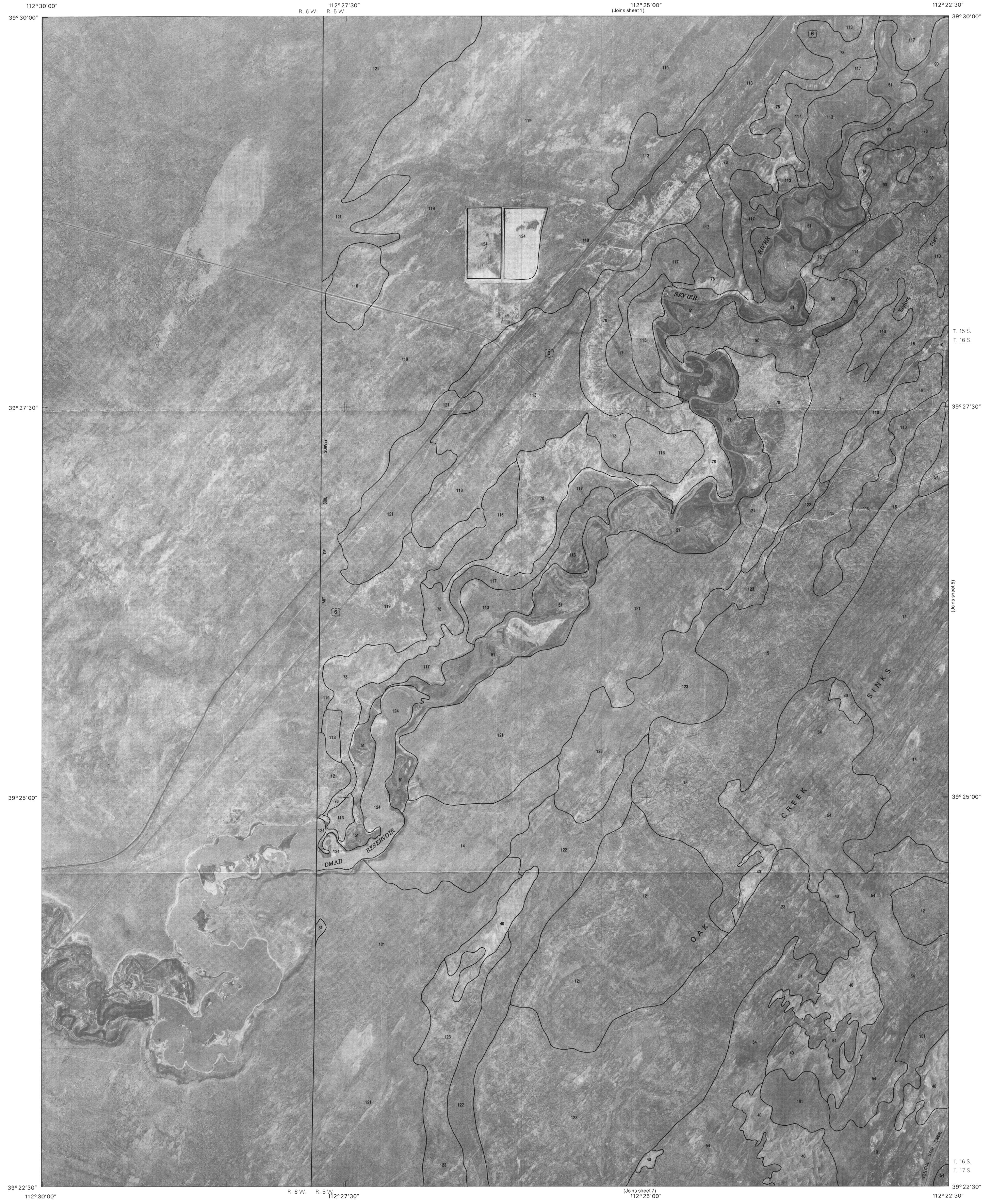
1 TANNER CREEK NARROWS
2 JERICHO
3 FURNER RIDGE
4 LYNNDYL EAST
5 SAGE VALLEY
6 OAK CITY NORTH
7 FOOL CREEK PEAK
8 MILLS

INDEX TO ADJOINING 7.5 MAPS

CHAMPLIN PEAK, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 3 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
STRONG QUADRANGLE
SHEET NUMBER 4 OF 28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T. 15 S.
T. 16 S.
T. 17 S.
(Joins sheet 5)
(Joins sheet 7)
LIMIT OF SOIL SURVEY
SEVIER RIVER
DMAD RESERVOIR
OAK CREEK SINKS
Taylors Flat
CENTRAL UTAH CANAL
6
121
119
124
116
113
117
78
51
90
114
110
15
14
123
122
40
54
101

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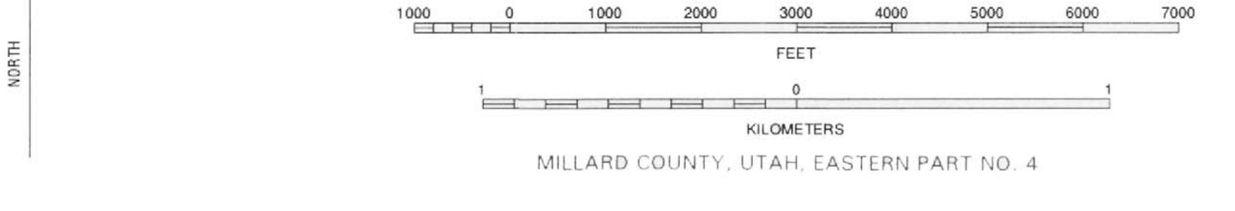
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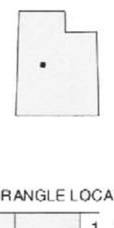
MILLARD COUNTY, UTAH, EASTERN PART NO. 4



STRONG, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 4 OF 28

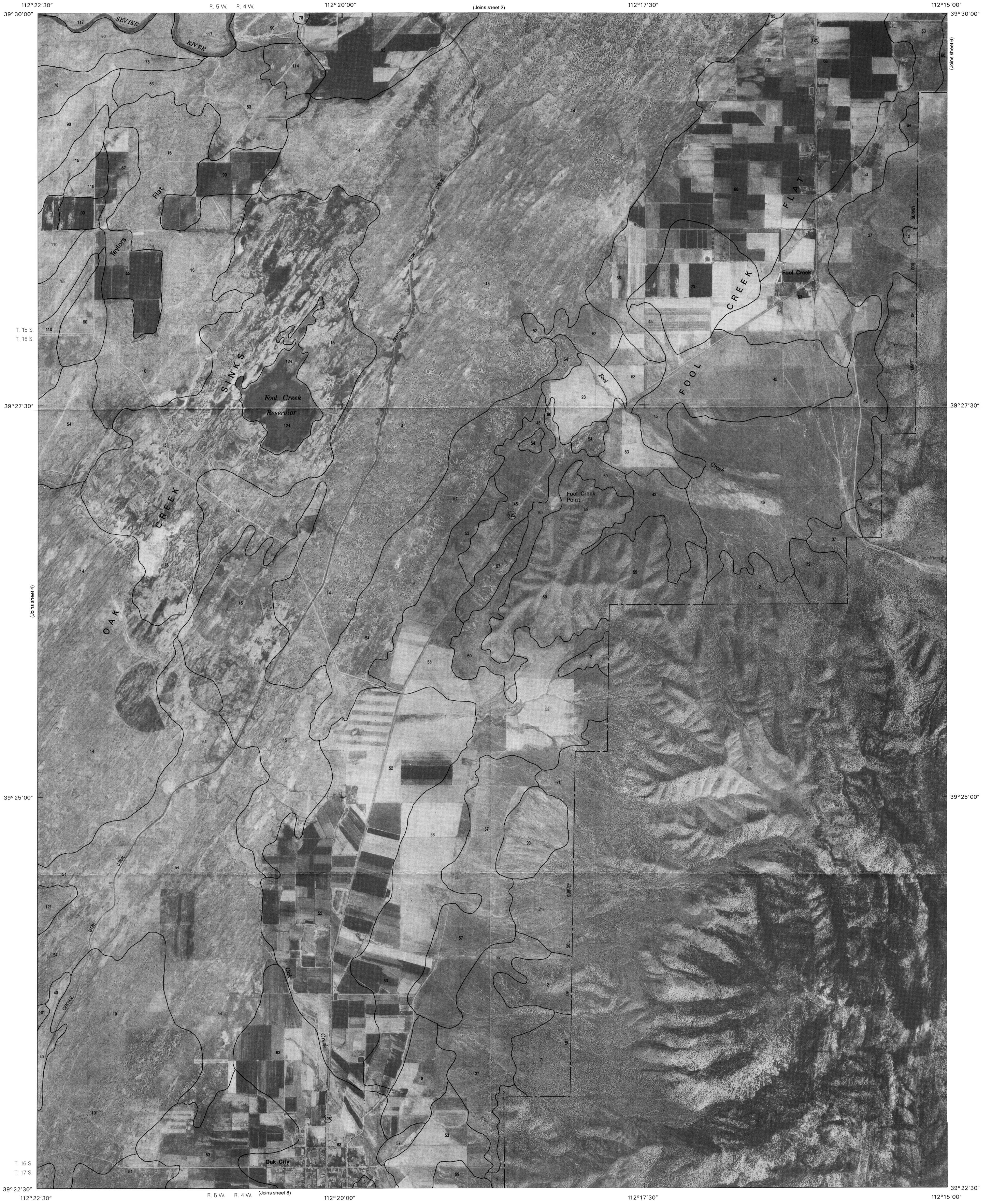
QUADRANGLE LOCATION

1 RAIN LAKE
2 LYNNDYL WEST
3 LYNNDYL EAST
4 DELTA NE
5 OAK CITY NORTH
6 DELTA
7 HARDING
8 OAK CITY SOUTH

INDEX TO ADJOINING 7.5 MAPS

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
OAK CITY NORTH QUADRANGLE
SHEET NUMBER 5 OF 28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(Joins sheet 6)
SEVIER
RIVER
Taylors
Flat
SINKS
Fool Creek
Reservior
OAK
CREEK
FOOL
CREEK
FLAT
Fool Creek
Fool
Creek
Fool Creek
Point
T. 15 S.
T. 16 S.
39°27'30"
39°27'30"
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39°25'00"
39°25'00"
Oak
Creek
Oak City
SURVEY
SOIL
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39°22'30"
39°22'30"
112°22'30"
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R. 4 W.
(Joins sheet 8)
112°20'00"
112°17'30"
112°15'00"

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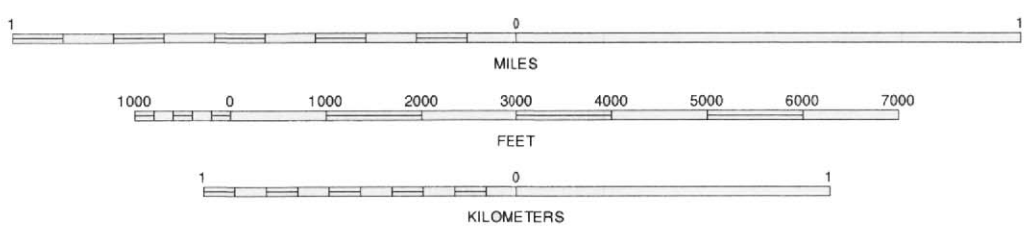
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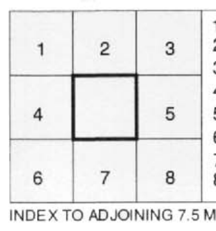
MILLARD COUNTY, UTAH, EASTERN PART NO. 5

OAK CITY NORTH, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 5 OF 28

QUADRANGLE LOCATION



1 LYNNDYL WEST
2 LYNNDYL EAST
3 CHAMPLIN PEAK
4 STRONG
5 FOOL CREEK PEAK
6 HARDING
7 OAK CITY SOUTH
8 WILLIAMS PEAK

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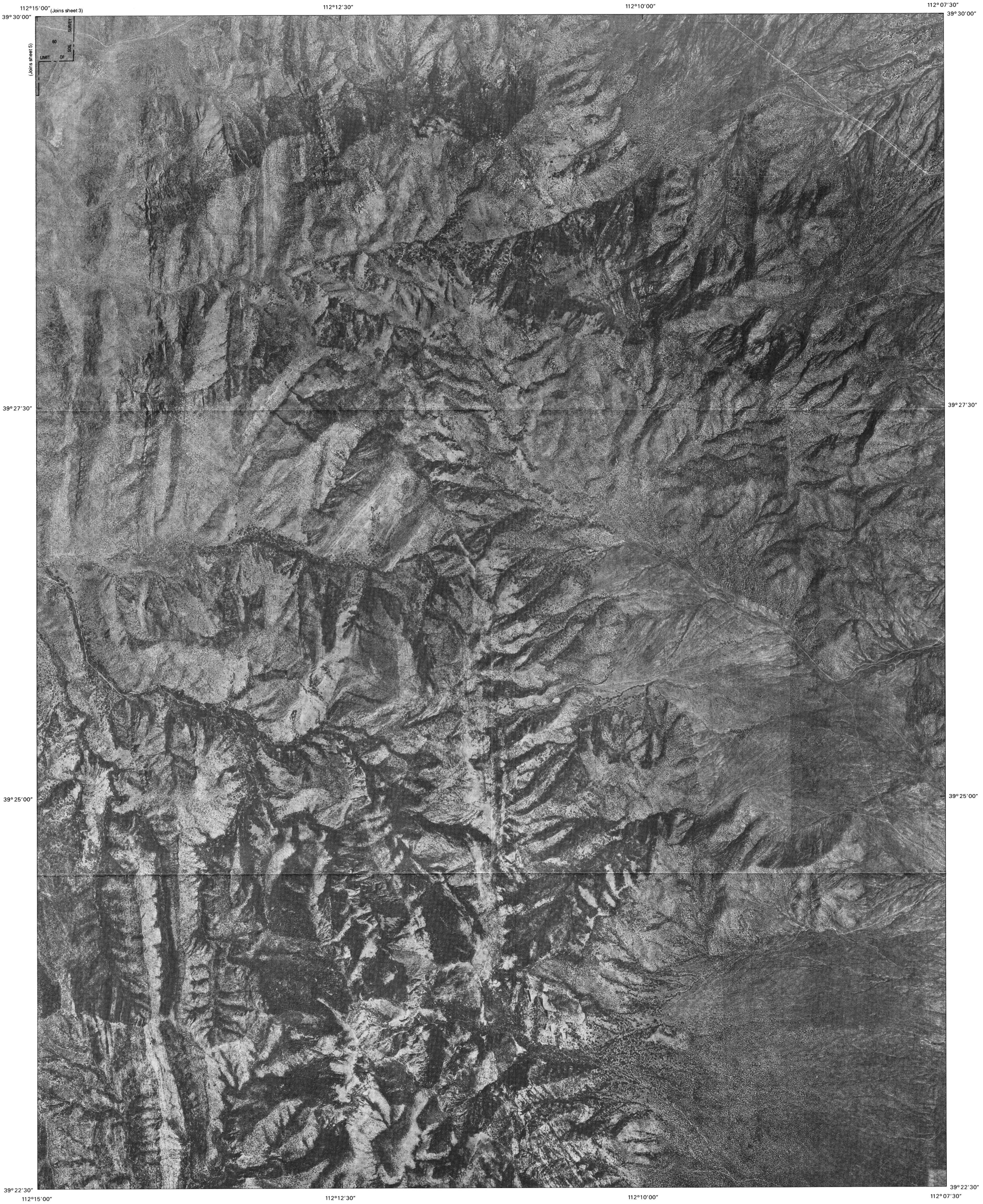
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
FOOL CREEK PEAK QUADRANGLE
SHEET NUMBER 6 OF 28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39°22′30″
(Joins sheet 5)
SURVEY
60
SOIL
LIMIT
OF
112°15′00″
112°12′30″
112°10′00″
112°07′30″
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39°27′30″
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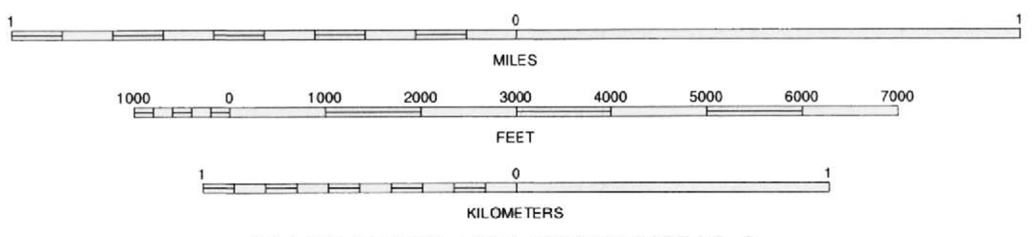
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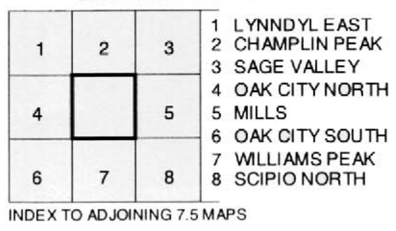
MILLARD COUNTY, UTAH, EASTERN PART NO. 6

QUADRANGLE LOCATION



1 LYNNDYL EAST
2 CHAMPLIN PEAK
3 SAGE VALLEY
4 OAK CITY NORTH
5 MILLS
6 OAK CITY SOUTH
7 WILLIAMS PEAK
8 SCIPIO NORTH

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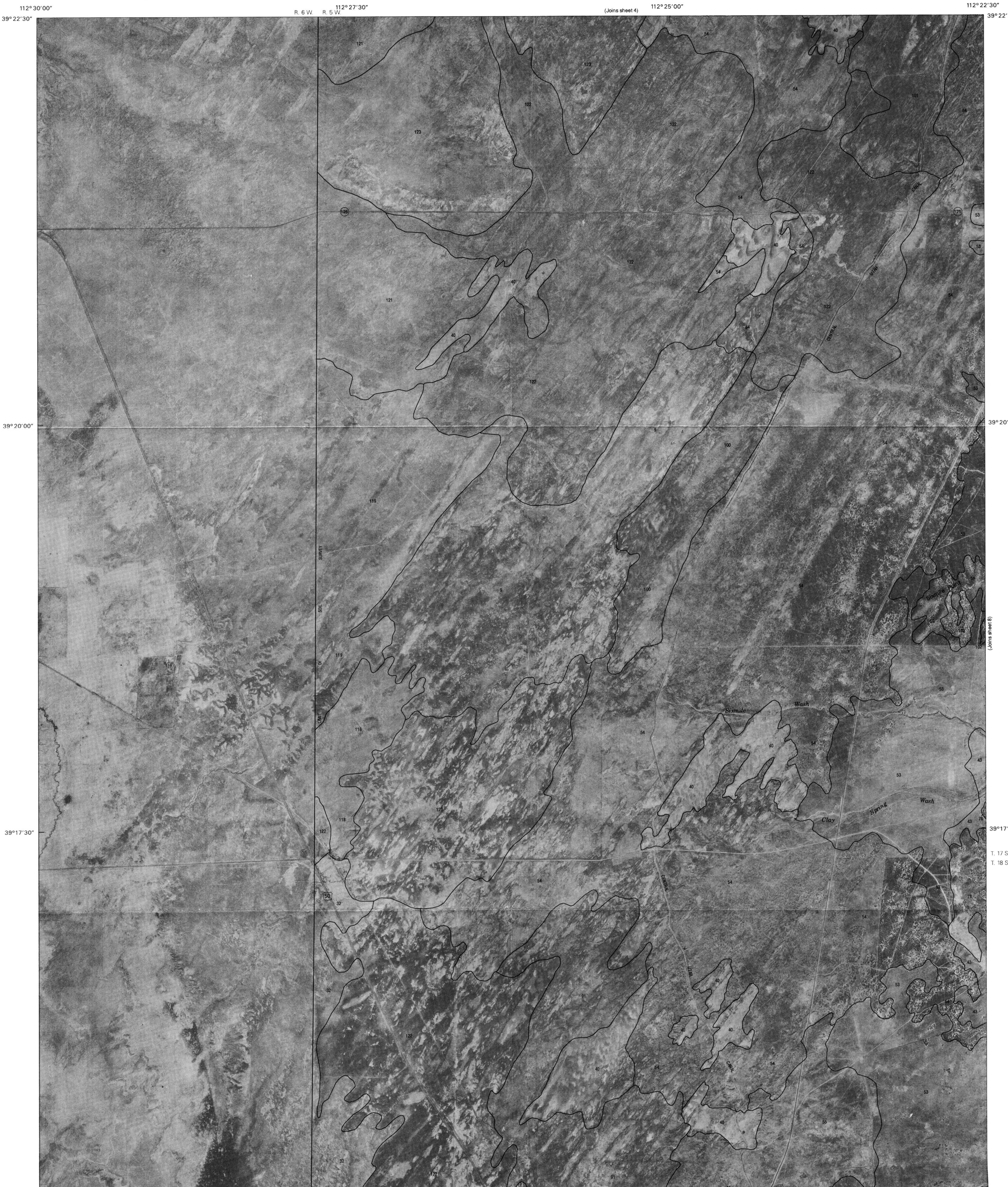
FOOL CREEK PEAK, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 6 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
HARDING QUADRANGLE
SHEET NUMBER 7 OF 28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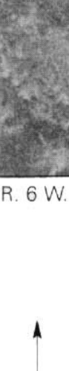
39°17'30"
39°17'30"
T. 17 S.
T. 18 S.
(Joins sheet 8)
39°15'00"
112°30'00"
R. 6 W.
R. 5 W.
112°27'30"
(Joins sheet 11)
112°25'00"
39°15'00"
112°22'30"
Sixmile Wash
Clay Spring Wash
CENTRAL UTAH CANAL
LIMIT OF SOIL SURVEY
125
50
121
123
122
40
54
100
53
9
119
118
32
23
43
55
51

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1975 aerial photography.

North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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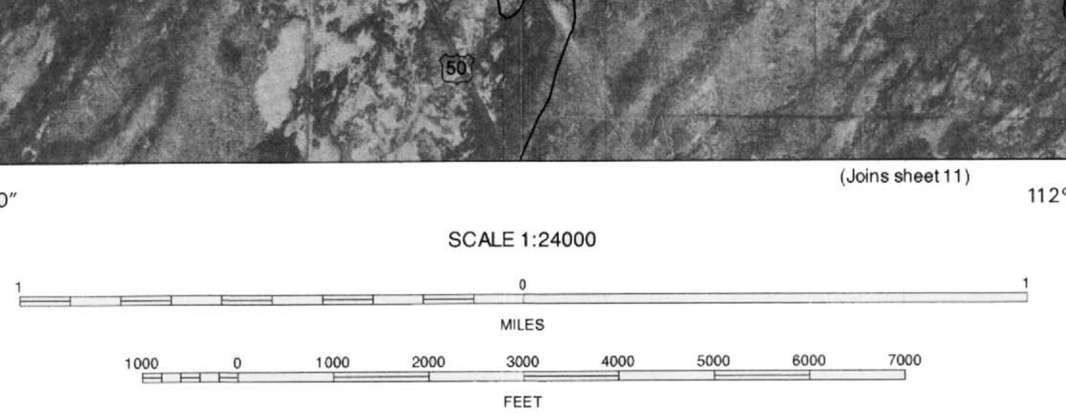
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MILES
1000
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7000
FEET
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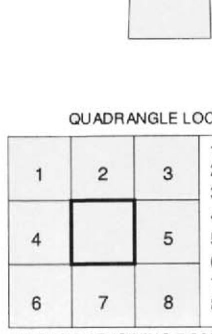
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 7

HARDING, UTAH

7.5 MINUTE SERIES
SHEET NUMBER 7 OF 28

QUADRANGLE LOCATION



1 DELTA NE
2 STRONG
3 OAK CITY NORTH
4 DELTA
5 OAK CITY SOUTH
6 PAHVANT BUTTE NORTH
7 MCCORNICK
8 DUGGINS CREEK

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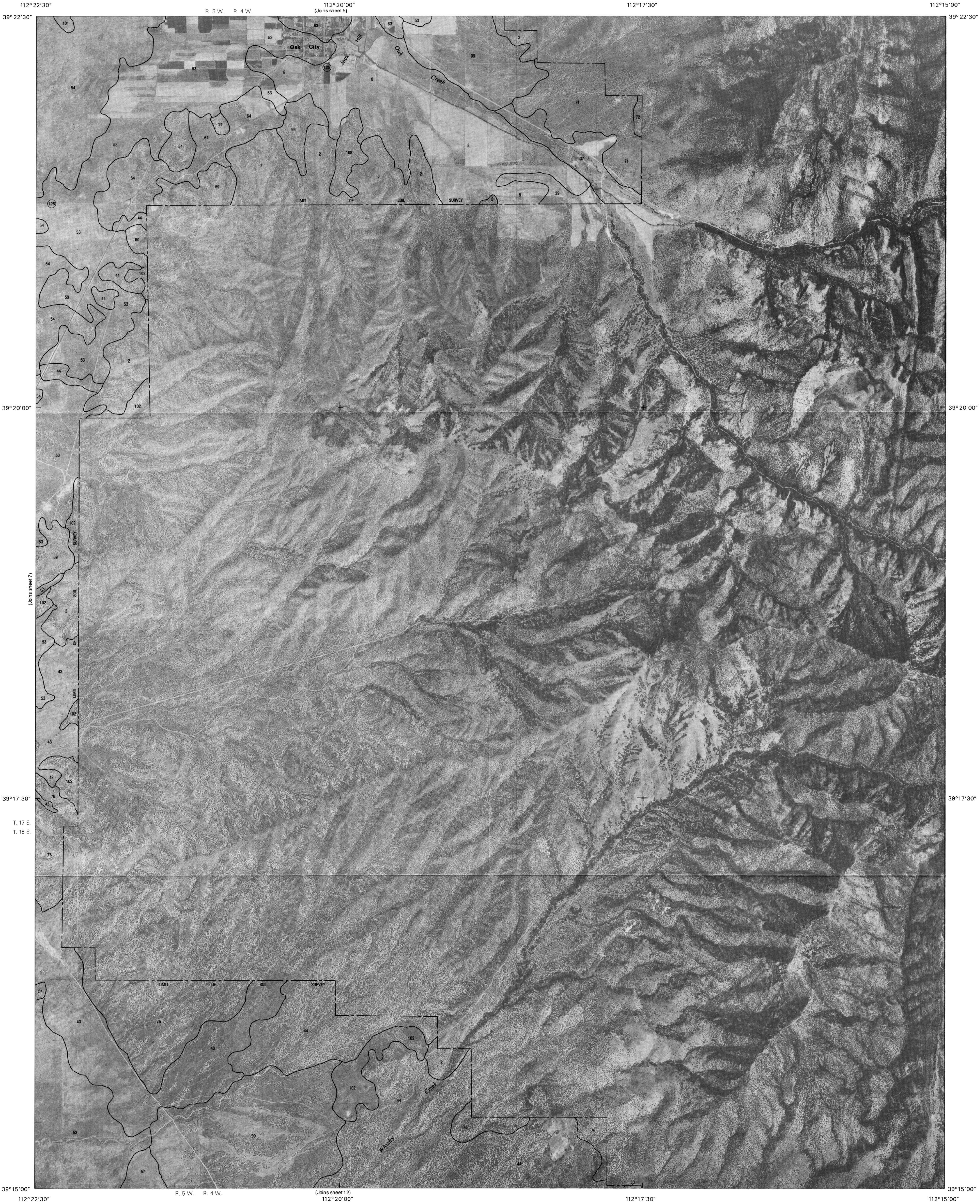
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
OAK CITY SOUTH QUADRANGLE
SHEET NUMBER 8 OF 28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112° 20′00″
(Joins sheet 5)
112°17′30″
112°15′00″
39° 22′30″
39° 20′00″
39°17′30″
39°15′00″
R. 5 W.
R. 4 W.
T. 17 S.
T. 18 S.
(Joins sheet 7)
(Joins sheet 12)
Oak City
Jack Hill
Oak Creek
Whisky Creek
125
LIMIT OF SOIL SURVEY
101
53
63
8
99
2
54
14
64
71
72
37
39
108
59
44
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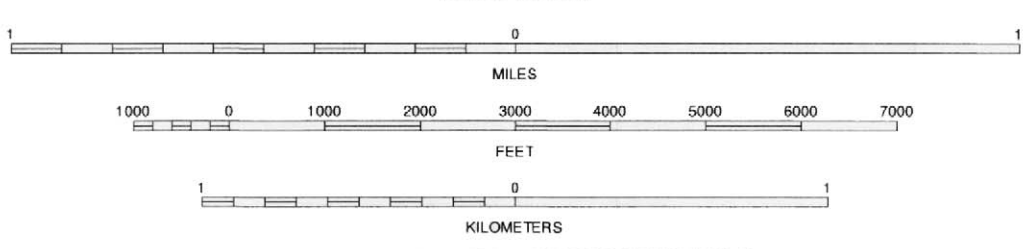
102
58
43
76
57

SCALE 1:24000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MILES
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7000
FEET
1
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 8

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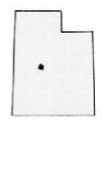
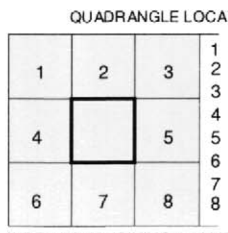
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION



1 STRONG
2 OAK CITY NORTH
3 FOOL CREEK PEAK
4 HARDING
5 WILLIAMS PEAK
6 MCCORNICK
7 DUGGINS CREEK
8 SCIPIO PASS

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OAK CITY SOUTH, UTAH
7.5 MINUTE SERIES
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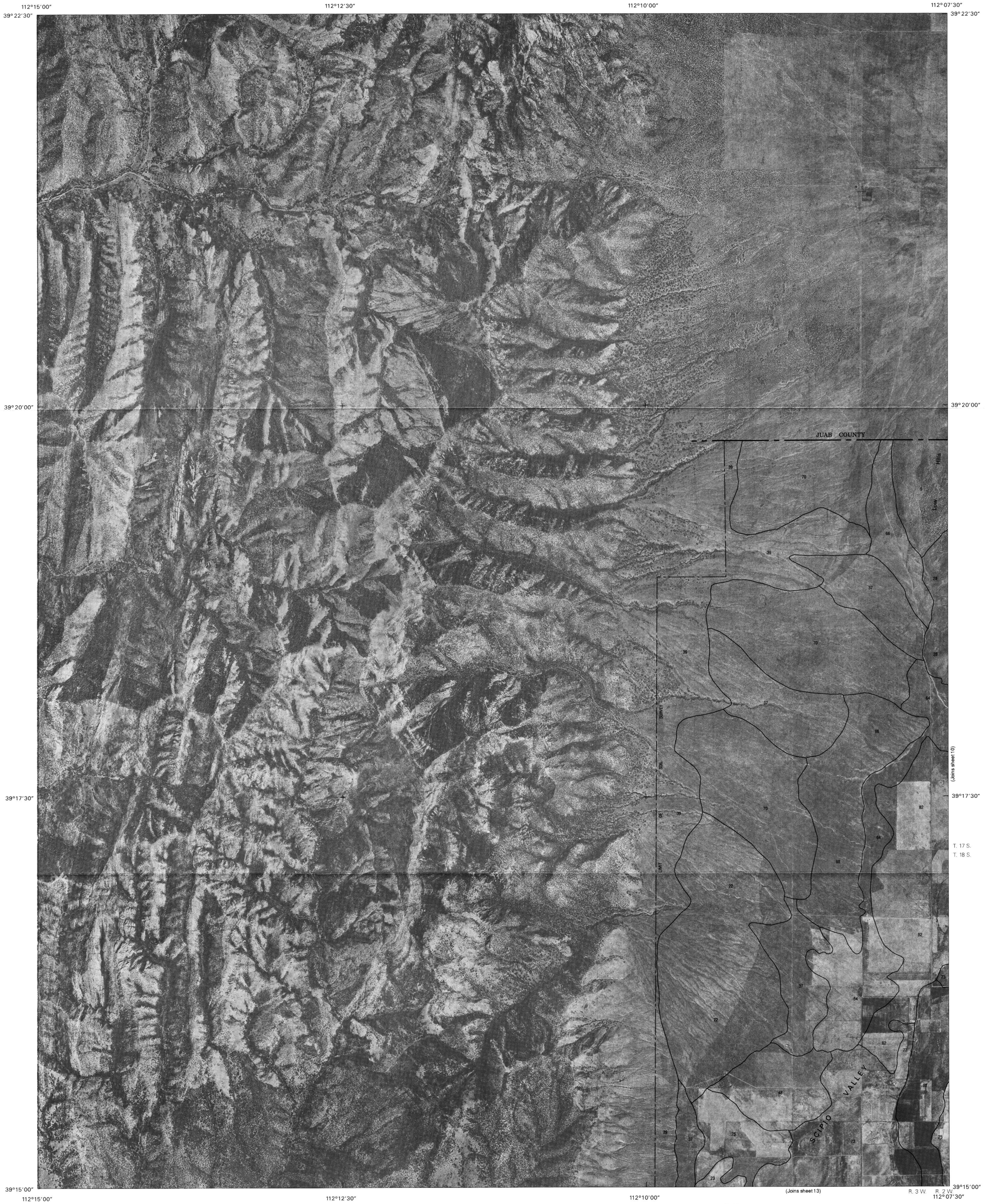
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
WILLIAMS PEAK QUADRANGLE
SHEET NUMBER 9 OF 28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112°12′30″
112°10′00″
112°07′30″
39°22′30″
39°22′30″
39°20′00″
39°20′00″
JUAB COUNTY
Low Hills
39
70
5
66
39
28
37
70
39
28
64
98
37
SURVEY
SOIL
OF
LIMIT
(Joins sheet 10)
39°17′30″
39°17′30″
70
82
39
64
T. 17 S.
T. 18 S.
98
22
82
37
64
22
82
73
73
VALLEY
SCIPIO
48
92
39
37
75
73
75
23
39°15′00″
39°15′00″
112°15′00″
112°12′30″
112°10′00″
(Joins sheet 13)
R. 3 W.
R. 2 W.
112°07′30″

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North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

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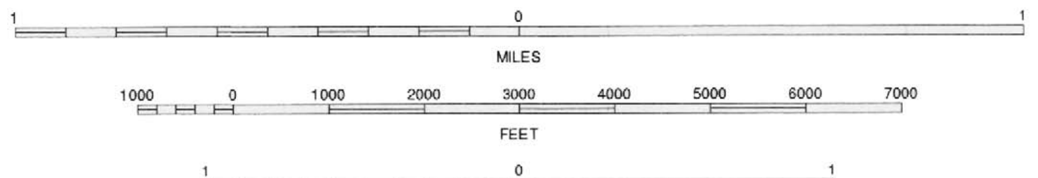
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MILES
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7000
FEET
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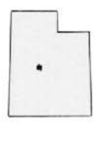
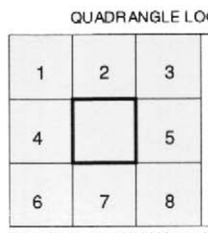
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 9



WILLIAMS PEAK, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 9 OF 28

QUADRANGLE LOCATION



1 OAK CITY NORTH
2 FOOL CREEK PEAK
3 MILLS
4 OAK CITY SOUTH
5 SCIPIO NORTH
6 DUGGINS CREEK
7 SCIPIO PASS
8 SCIPIO SOUTH

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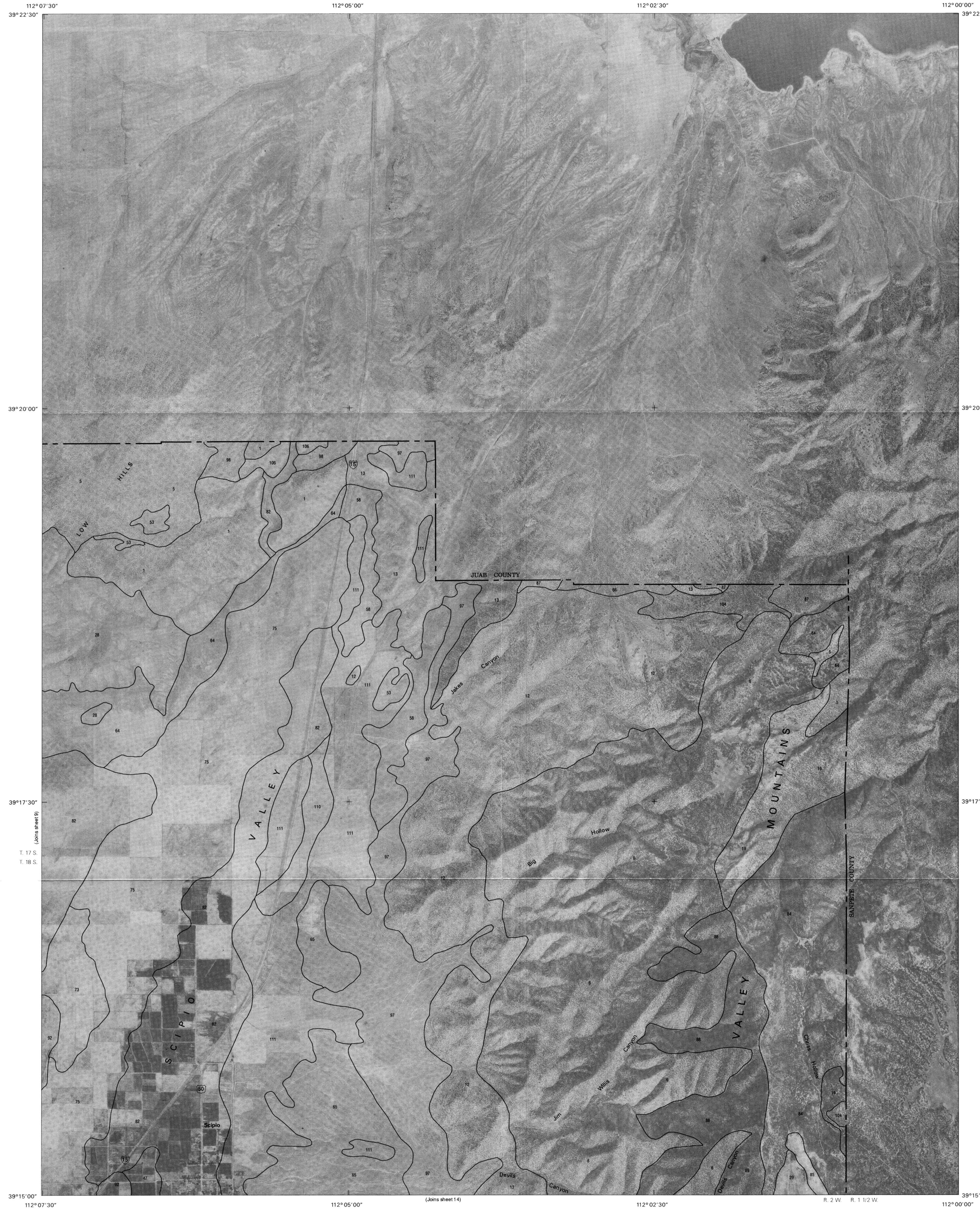
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
SCIPIO NORTH QUADRANGLE
SHEET NUMBER 10 OF 28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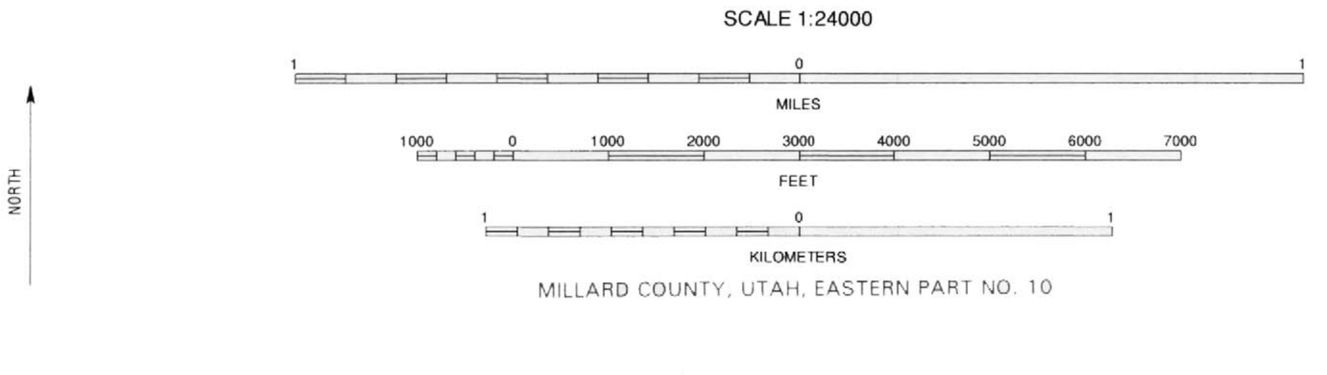
112° 05′00″
112° 02′30″
112° 00′00″
39° 22′30″
39° 20′00″
39°17′30″
39° 15′00″
LOW HILLS
JUAB COUNTY
SANPETE COUNTY
VALLEY
MOUNTAINS
VALLEY
SCIPIO
Scipio
Jakes Canyon
Big Hollow
Jim Willis Canyon
Devils Canyon
Devils Canyon
Chris Hollow
15
50
(Joins sheet 9)
(Joins sheet 14)
T. 17 S.
T. 18 S.
R. 2 W.
R. 1 1/2 W.
1
5
53
28
64
75
82
73
92
47
98
106
13
58
97
111
110
12
65
6
66
87
104
88
84
16
19
29
85

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1975 aerial photography.

North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.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7000
FEET
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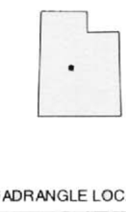
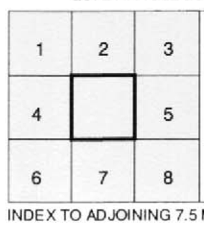
0
1
KILOMETERS



SCIPIO NORTH, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 10 OF 28

QUADRANGLE LOCATION



1 FOOL CREEK PEAK
2 MILLS
3 SKINNER PEAKS
4 WILLIAMS PEAK
5 HELLS KITCHEN CANYON SW
6 SCIPIO PASS
7 SCIPIO SOUTH
8 HAYES CANYON

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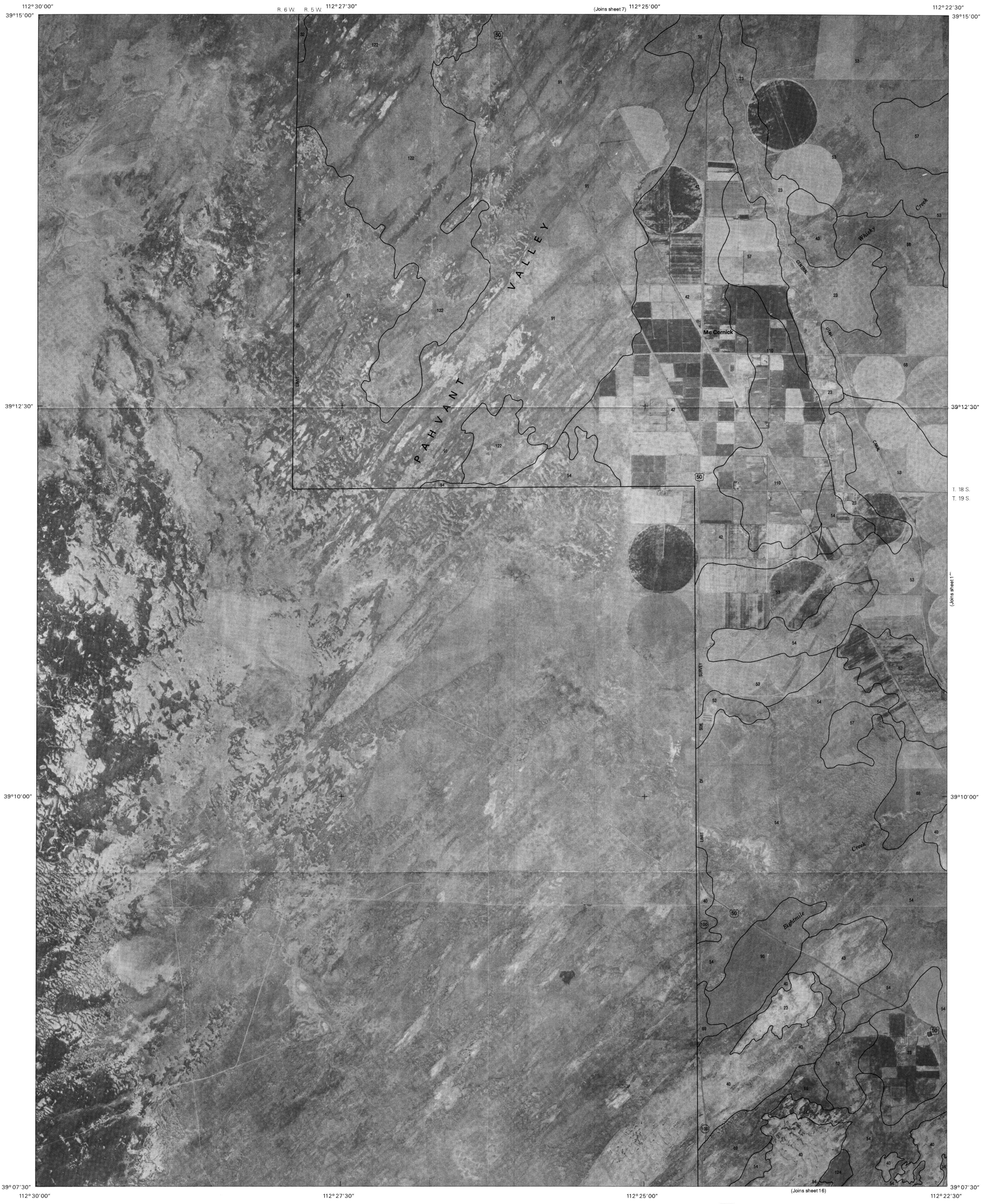
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
MCCORNICK QUADRANGLE
SHEET NUMBER 11 OF 28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R. 6 W.
R. 5 W.
112° 27′30″
(Joins sheet 7)
112° 25′00″
112° 22′30″
39° 15′00″
39° 12′30″
39° 10′00″
39° 07′30″
T. 18 S.
T. 19 S.
(Joins sheet 11)
(Joins sheet 16)
PAHVANT VALLEY
Mc Cornick
Whisky Creek
CENTRAL UTAH CANAL
Eightmile Creek
SOIL SURVEY LIMIT
50
100
32
122
91
23
53
57
42
48
86
110
68
51
54
52
40
43
90
88
124

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North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

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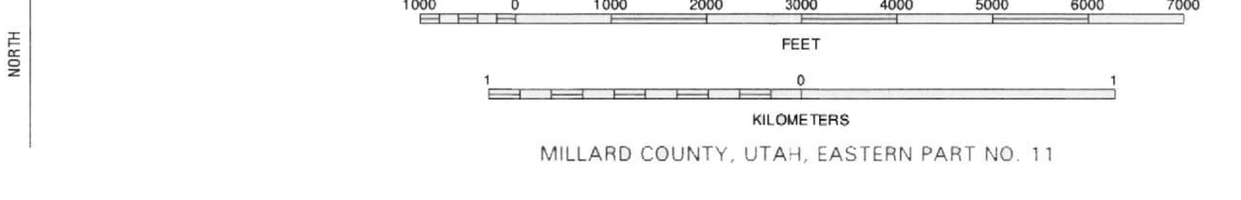
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MILES
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7000
FEET
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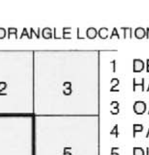
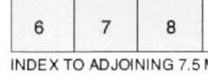
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 11



MCCORNICK, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 11 OF 28

QUADRANGLE LOCATION



1 DELTA
2 HARDING
3 OAK CITY SOUTH
4 PAHVANT BUTTE NORTH
5 DUGGINS CREEK
6 PAHVANT BUTTE SOUTH
7 THE SINK
8 HOLDEN

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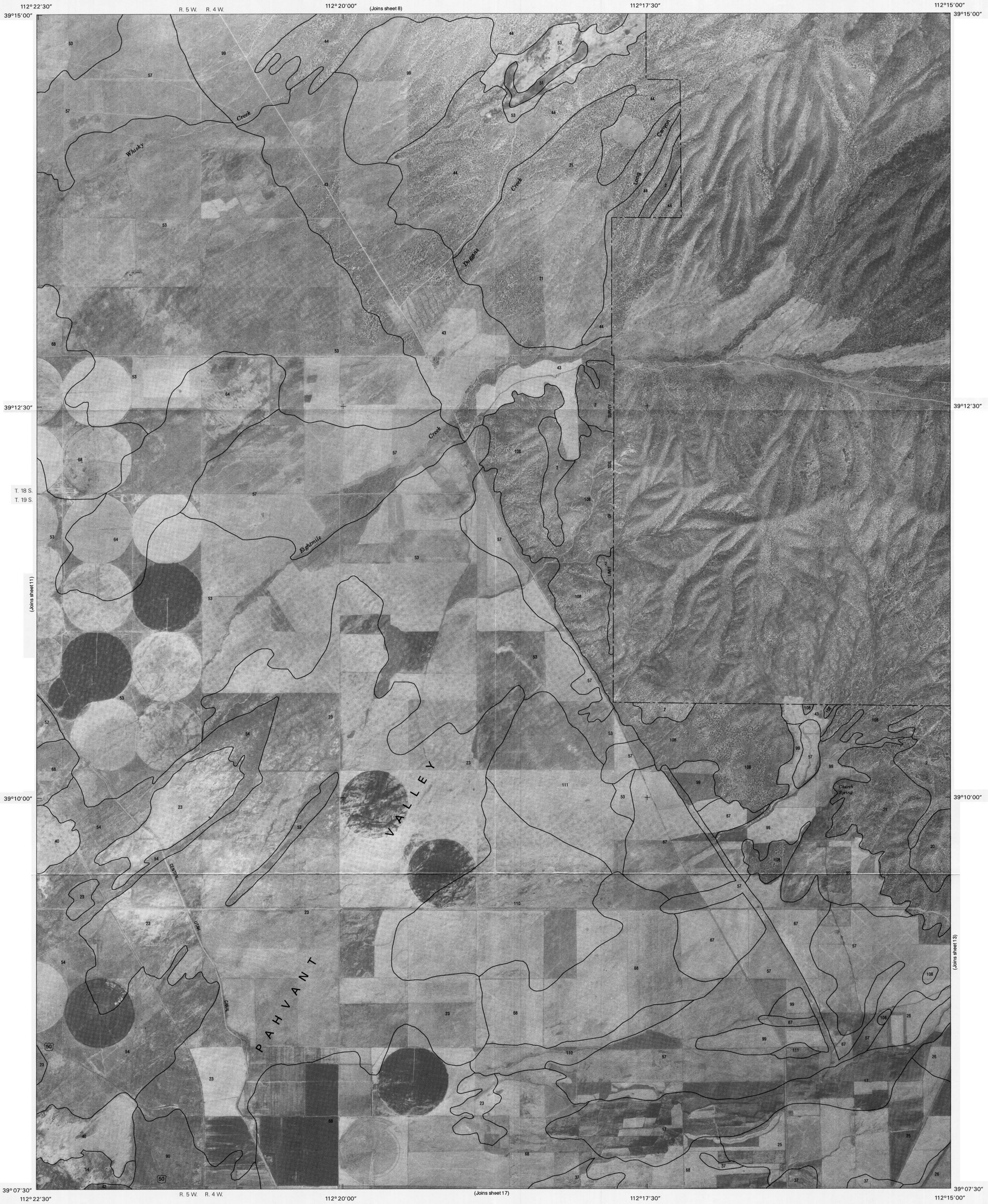
MILLARD COUNTY, UTAH, EASTERN PART
DUGGINS CREEK QUADRANGLE
SHEET NUMBER 12 OF 28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R. 5 W. R. 4 W.
112° 20′00″
(Joins sheet 8)
112° 17′30″
112° 15′00″
39° 15′00″
39° 12′30″
39° 10′00″
39° 07′30″
(Joins sheet 11)
(Joins sheet 13)
(Joins sheet 17)
T. 18 S.
T. 19 S.
Whisky
Creek
Duggins
Creek
Long
Canyon
Eightmile
Creek
Church Spring
SOIL SURVEY UNIT
PAHVANT
VALLEY
CENTRAL UTAH CANAL
50

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North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

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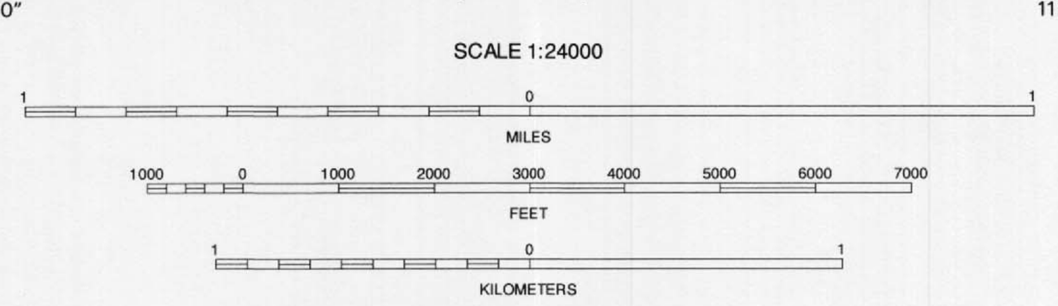
1
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MILES
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FEET
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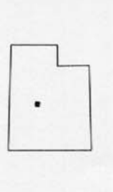
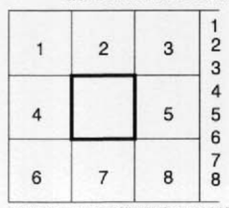
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 12



QUADRANGLE LOCATION



1 HARDING
2 OAK CITY SOUTH
3 WILLIAMS PEAK
4 MCCORNICK
5 SCIPIO PASS
6 THE SINK
7 HOLDEN
8 COFFEE PEAK

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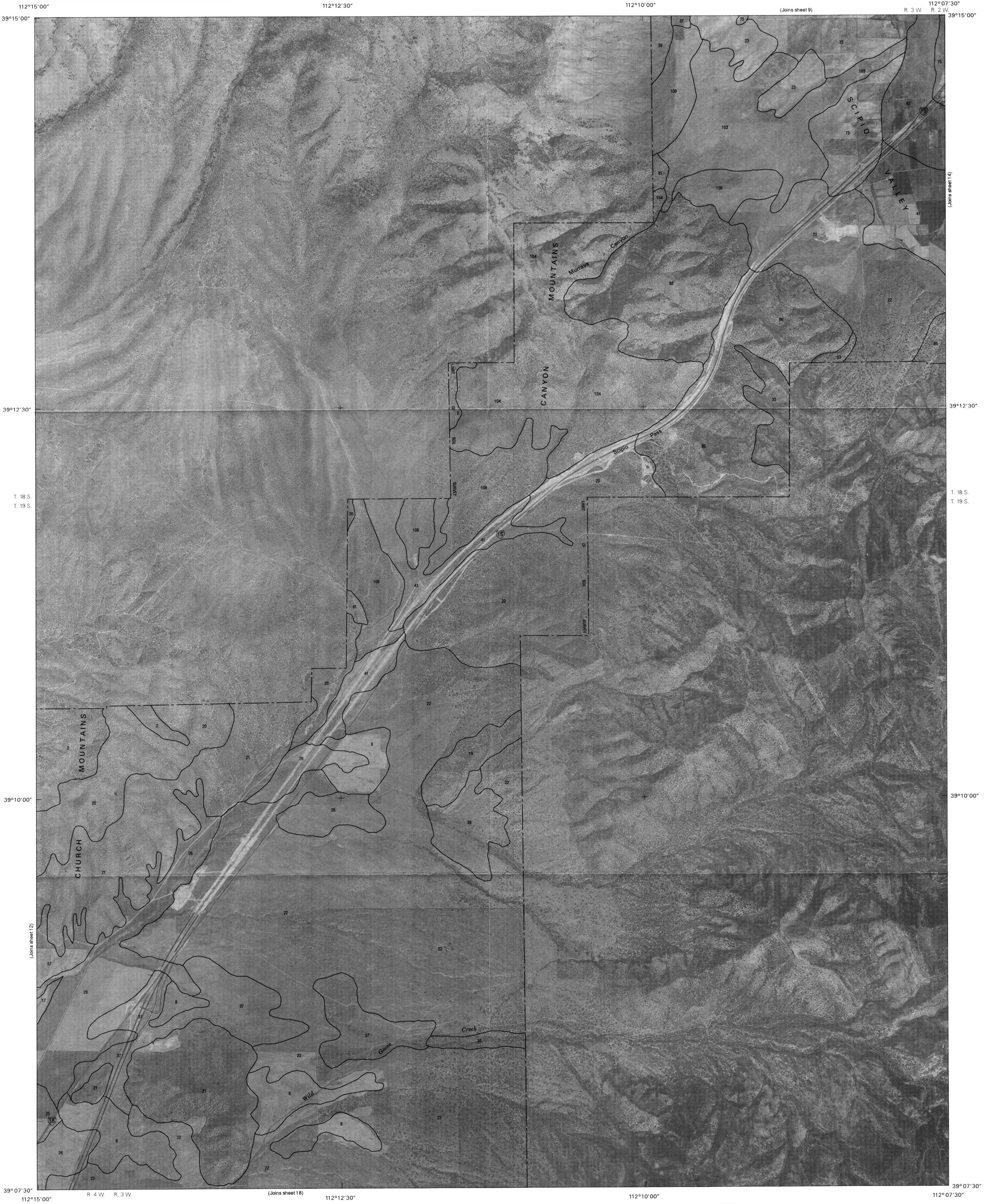
DUGGINS CREEK, UTAH

7.5 MINUTE SERIES
SHEET NUMBER 12 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
SCIPIO PASS QUADRANGLE
SHEET NUMBER 13 OF 28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112°10′00″
112°07′30″
39°15′00″
39°12′30″
39°10′00″
39°07′30″
(Joins sheet 9)
(Joins sheet 14)
(Joins sheet 12)
(Joins sheet 18)
R. 3 W.
R. 2 W.
R. 4 W.
T. 18 S.
T. 19 S.
SCIPIO
VALLEY
MOUNTAINS
Murrays Canyon
CANYON
Scipio Pass
CHURCH
MOUNTAINS
Wild Goose Creek
15
LIMIT OF SOIL SURVEY
37
38
75
23
73
109
103
108
82
41
104
22
88
86
33
20
35
106
108
2
21
8
26
19
36
57
17
25

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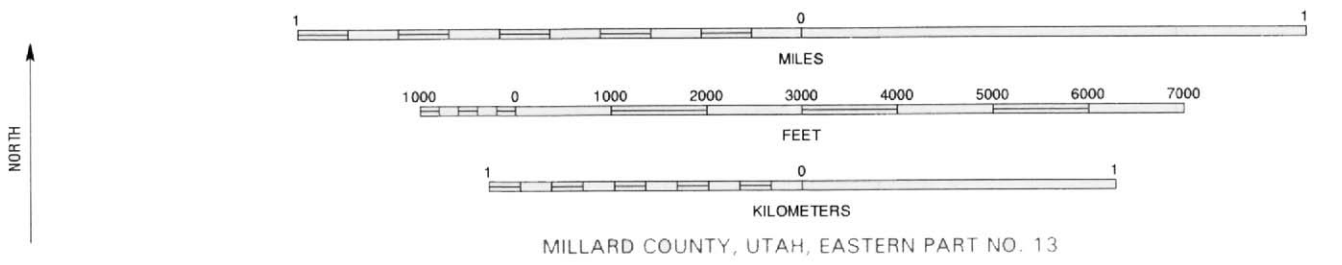
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FEET
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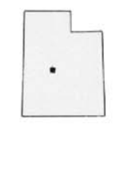
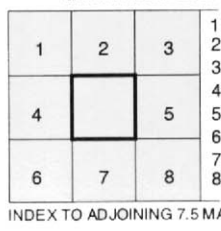
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 13



QUADRANGLE LOCATION



1 OAK CITY SOUTH
2 WILLIAMS PEAK
3 SCIPIO NORTH
4 DUGGINS CREEK
5 SCIPIO SOUTH
6 HOLDEN
7 COFFEE PEAK
8 SCIPIO LAKE

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SCIPIO PASS, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 13 OF 28

UNITED STATES
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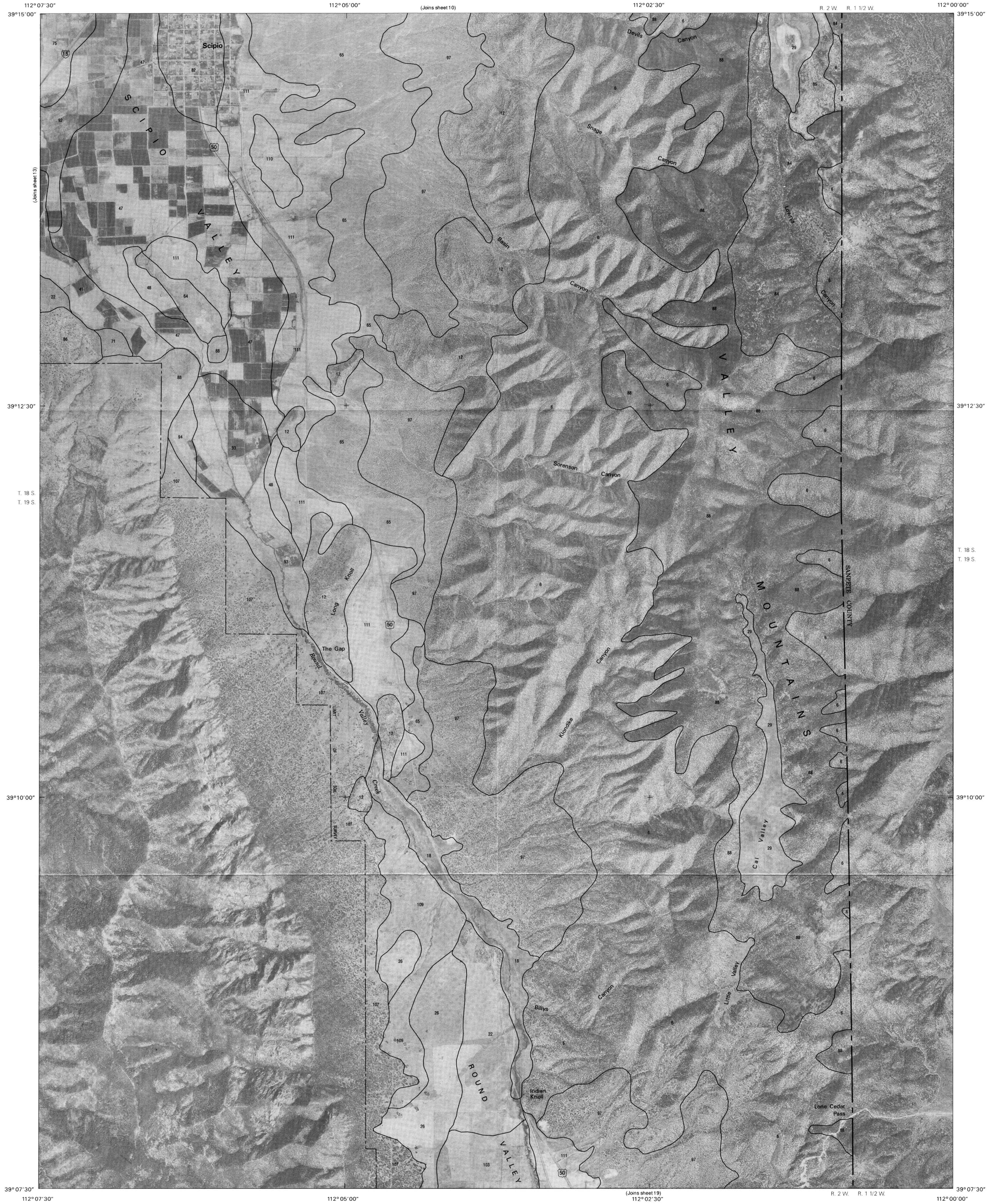
MILLARD COUNTY, UTAH, EASTERN PART
SCIPIO SOUTH QUADRANGLE
SHEET NUMBER 14 OF 28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112° 05′00″
(Joins sheet 10)
112° 02′30″
R. 2 W.
R. 1 1/2 W.
112° 00′00″
39°15′00″
39°12′30″
39°10′00″
39°07′30″
(Joins sheet 13)
(Joins sheet 19)
T. 18 S.
T. 19 S.
Scipio
SCIPIO VALLEY
Devils Canyon
Snage Canyon
Basin Canyon
Lowrys Canyon
VALLEY
Sorenson Canyon
Long Knoll
The Gap
Round Valley Creek
LIMIT OF SOIL SURVEY
MOUNTAINS
SANPETE COUNTY
Klondike Canyon
Cal Valley
Little Valley
Billys Canyon
Indian Knoll
ROUND VALLEY
Lone Cedar Pass
15
50
75
47
82
111
92
110
97
65
12
88
6
29
86
84
41
22
48
64
71
94
93
107
111
18
109
26
22
103
8
5

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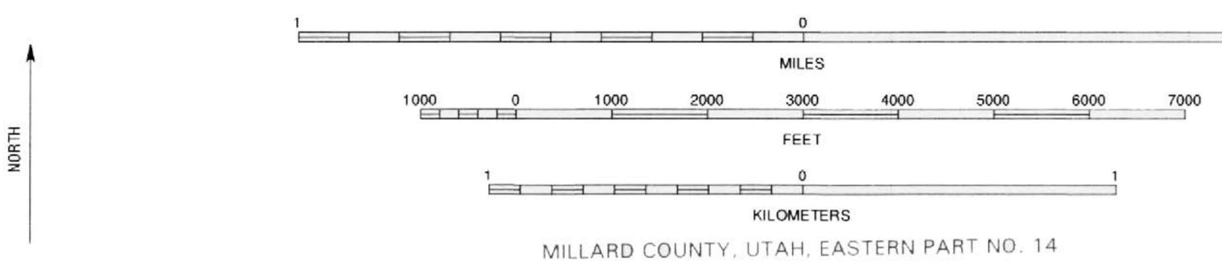
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

SCALE 1:24000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MILES
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7000
FEET
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1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 14

SCIPIO SOUTH, UTAH

7.5 MINUTE SERIES
SHEET NUMBER 14 OF 28

QUADRANGLE LOCATION

1 WILLIAMS PEAK
2 SCIPIO NORTH
3 HELLS KITCHEN CANYON SW
4 SCIPIO PASS
5 HAYES CANYON
6 COFFEE PEAK
7 SCIPIO LAKE
8 REDMOND CANYON

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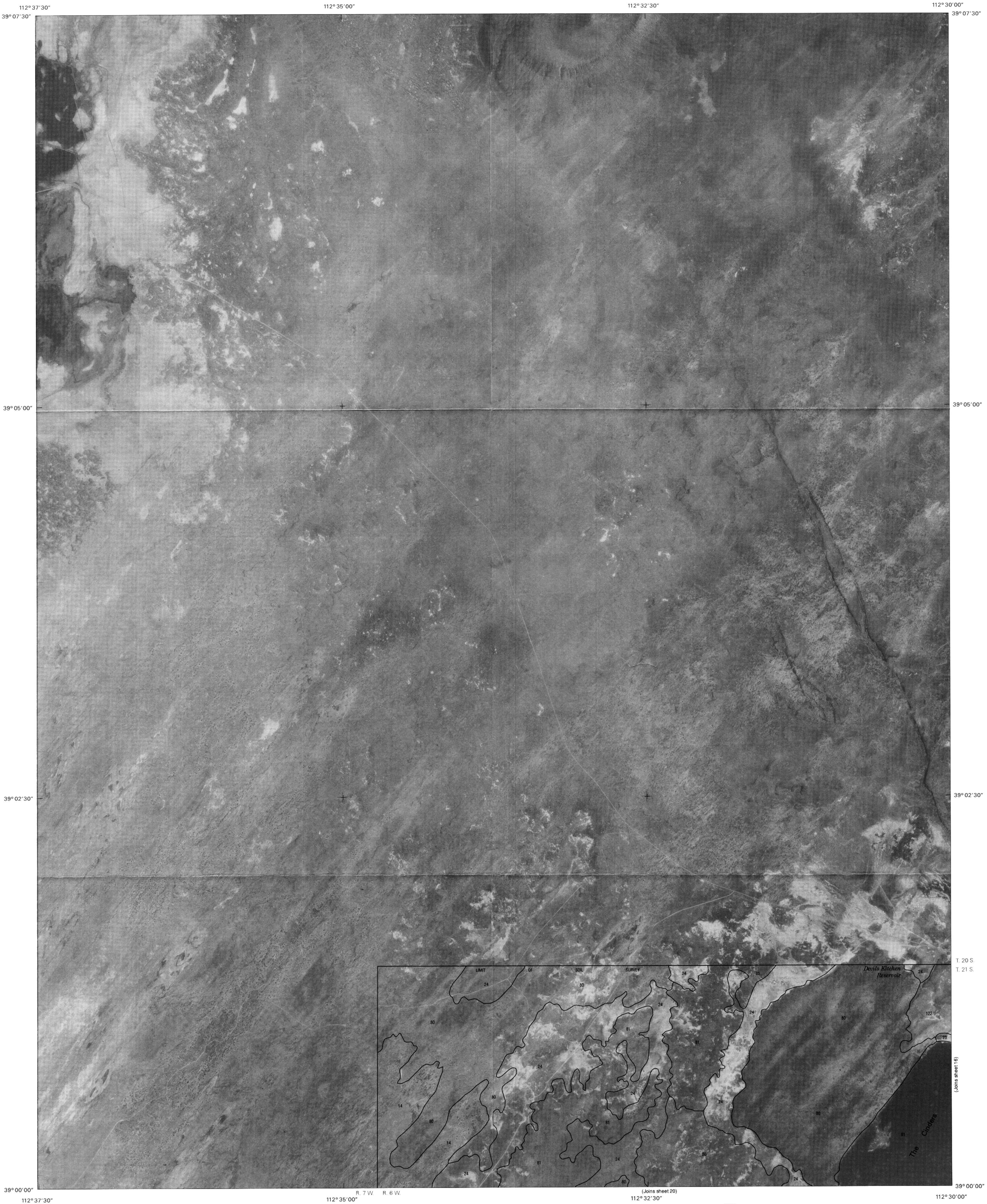
MILLARD COUNTY, UTAH, EASTERN PART
PAHVANT BUTTE SOUTH QUADRANGLE
SHEET NUMBER 15 OF 28



112° 37′30″
112° 35′00″
112° 32′30″
112° 30′00″
39° 07′30″
39° 05′00″
39° 02′30″
39° 00′00″
T. 20 S.
T. 21 S.
LIMIT OF SOIL SURVEY
Devils Kitchen Reservoir
The Cinders
(Joins sheet 16)
(Joins sheet 20)
R. 7 W.
R. 6 W.
14
23
24
80
81
122

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1975 aerial photography.

North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 15

PAHVANT BUTTE SOUTH, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 15 OF 28

QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 SUNSTONE KNOLL
2 PAHVANT BUTTE NORTH
3 MCCORNICK
4 CLEAR LAKE
5 THE SINK
6 SAND RIDGE
7 TABERNACLE HILL
8 MEADOW

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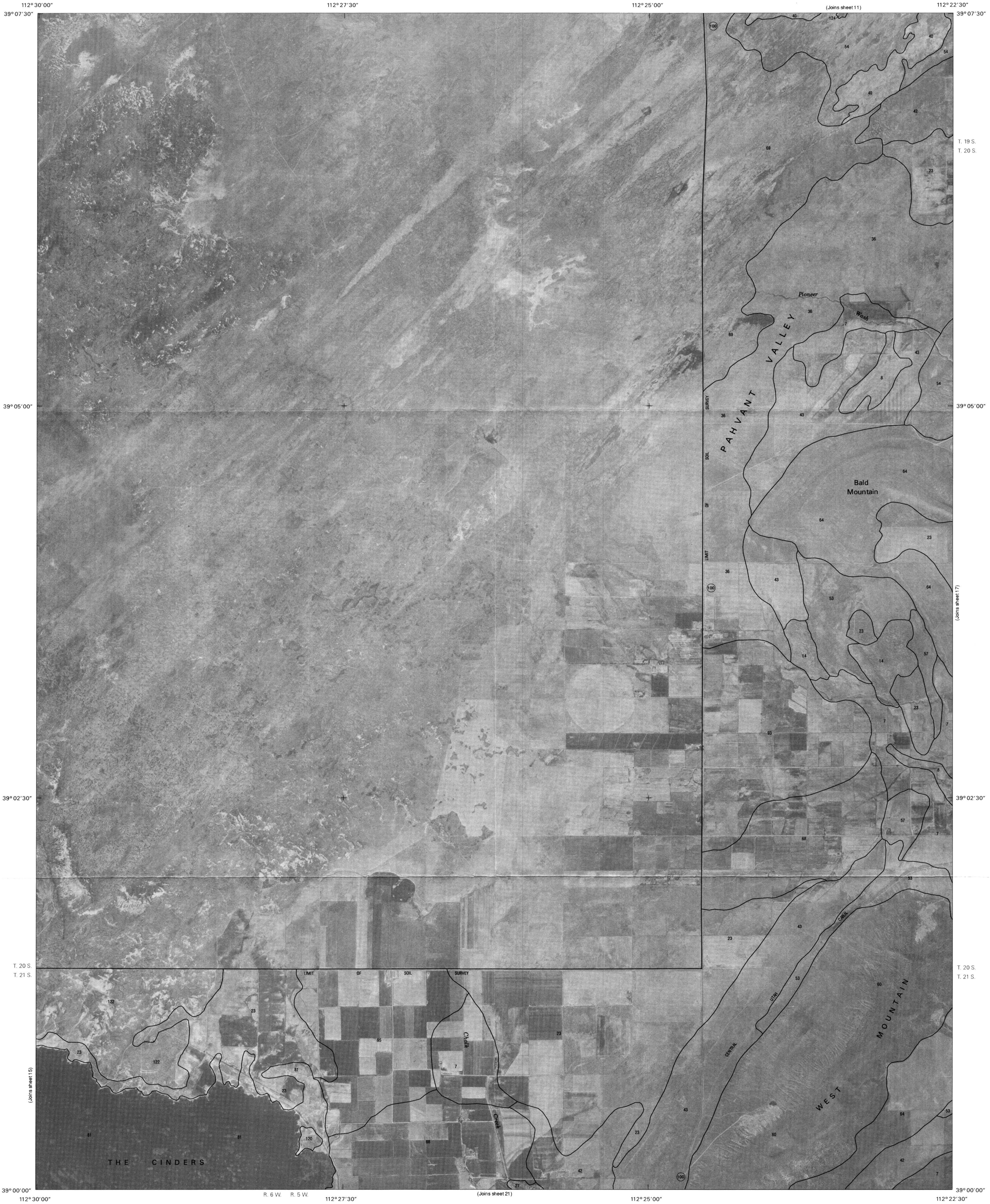
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
THE SINK QUADRANGLE
SHEET NUMBER 16 OF 28


112° 30′00″
112° 27′30″
112° 25′00″
112° 22′30″
39° 07′30″
39° 05′00″
39° 02′30″
39° 00′00″
(Joins sheet 11)
(Joins sheet 17)
(Joins sheet 21)
(Joins sheet 15)
T. 19 S.
T. 20 S.
T. 21 S.
R. 6 W.
R. 5 W.
PAHVANT VALLEY
Pioneer Wash
Bald Mountain
WEST MOUNTAIN
CENTRAL UTAH CANAL
LIMIT OF SOIL SURVEY
Chalk Creek
THE CINDERS
100
40
124
54
42
69
23
36
38
7
43
8
64
53
57
14
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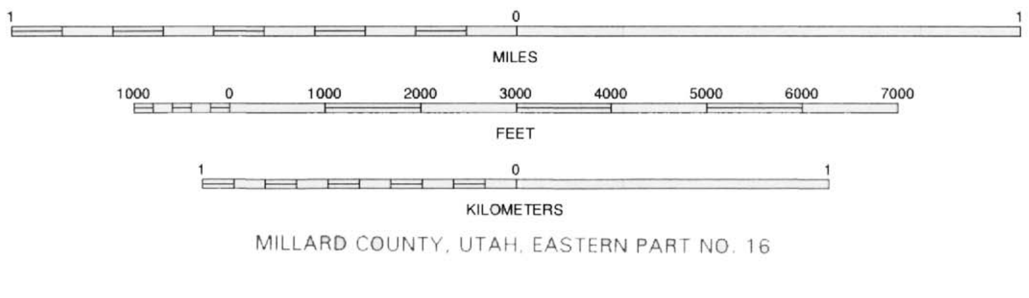
122
95
81
120
27

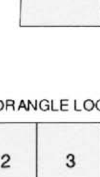
SCALE 1:24000


1
0
1
MILES
1000
0
1000
2000
3000
4000
5000
6000
7000
FEET
1
0
1
KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1975 aerial photography.

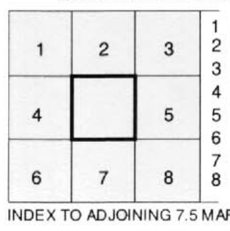
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

MILLARD COUNTY, UTAH, EASTERN PART NO. 16



THE SINK, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 16 OF 28

QUADRANGLE LOCATION



1 PAHVANT BUTTE NORTH
2 MCCORNICK
3 DUGGINS CREEK
4 PAHVANT BUTTE SOUTH
5 HOLDEN
6 TABERNACLE HILL
7 MEADOW
8 FILLMORE

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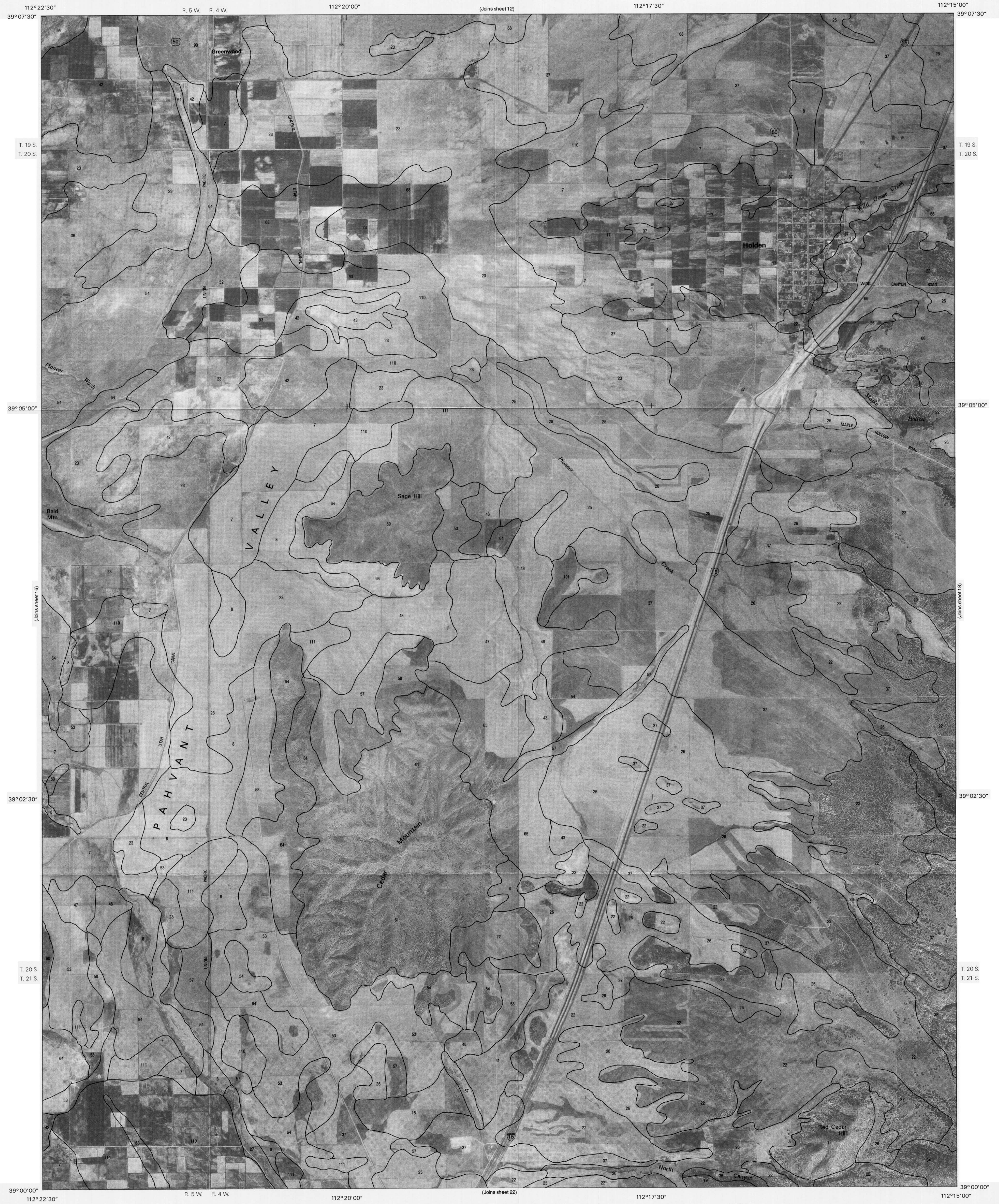
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
HOLDEN QUADRANGLE
SHEET NUMBER 17 OF 28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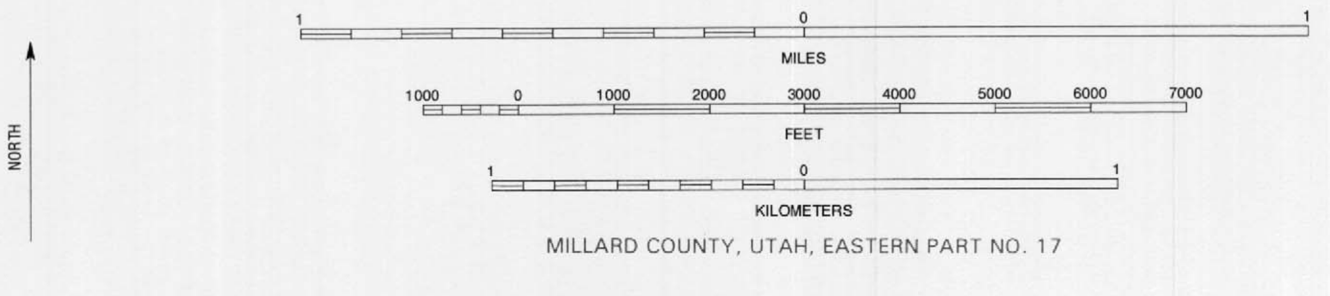
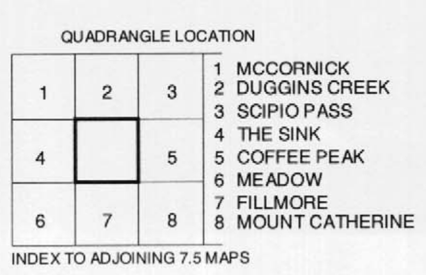
R. 5 W.
R. 4 W.
112° 20′00″
(Joins sheet 12)
112° 17′30″
112° 15′00″
39° 07′30″
T. 19 S.
T. 20 S.
39° 05′00″
(Joins sheet 16)
(Joins sheet 18)
39° 02′30″
T. 20 S.
T. 21 S.
39° 00′00″
(Joins sheet 22)
Greenwood
Holden
CENTRAL
PACIFIC
UTAH
UNION
CANAL
Wild Goose Creek
WIDE CANYON ROAD
MAPLE HOLLOW ROAD
Maple Hollow
Pioneer Wash
Bald Mtn
Sage Hill
Pioneer Creek
VALLEY
PAHVANT
Cedar Mountain
Red Cedar Hill
North Canyon
50
15

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1975 aerial photography.

North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.


NORTH
SCALE 1:24000
1
0
1
MILES
1000
0
1000
2000
3000
4000
5000
6000
7000
FEET
1
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 17


QUADRANGLE LOCATION
1
2
3
4
5
6
7
8

1 MCCORNICK
2 DUGGINS CREEK
3 SCIPIO PASS
4 THE SINK
5 COFFEE PEAK
6 MEADOW
7 FILLMORE
8 MOUNT CATHERINE

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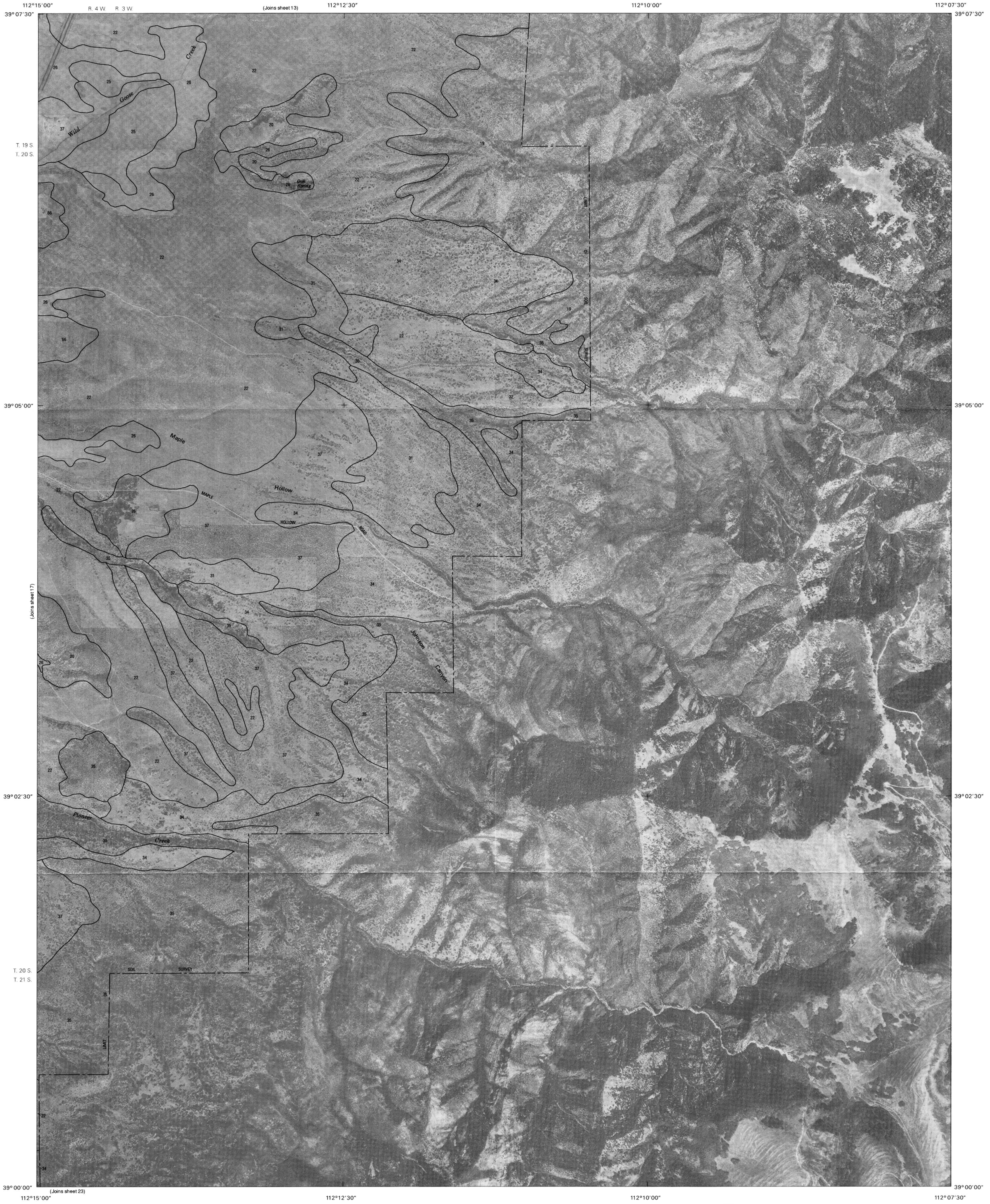
HOLDEN, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 17 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

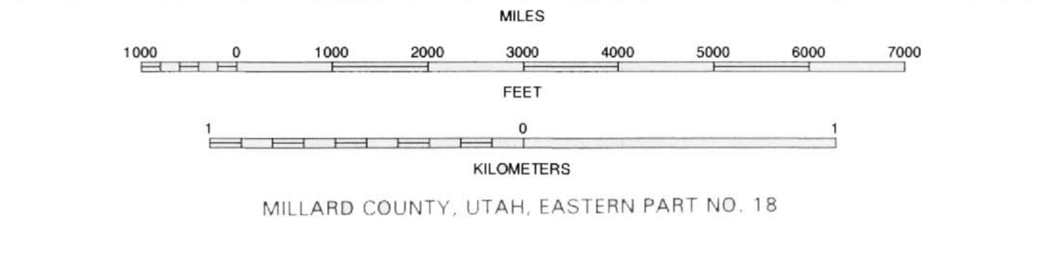
MILLARD COUNTY, UTAH, EASTERN PART
COFFEE PEAK QUADRANGLE
SHEET NUMBER 18 OF 28


112°15'00"
R. 4 W.
R. 3 W.
(Joins sheet 13)
112°12'30"
112°10'00"
112°07'30"
39°07'30"
39°07'30"
T. 19 S.
T. 20 S.
Wild
Goose
Creek
Oak Spring
22
26
25
28
25
37
22
20
26
20
26
22
19
22
66
22
34
31
34
26
19
22
31
35
66
35
34
22
22
22
35
39°05'00"
39°05'00"
26
Maple
37
31
Hollow
MAPLE
HOLLOW
ROAD
22
26
34
34
37
35
37
31
34
(Joins sheet 17)
34
35
35
Johnson
Canyon
20
26
22
22
37
37
22
34
22
35
35
37
22
22
37
34
39°02'30"
39°02'30"
34
35
Pioneer
Creek
35
34
37
35
T. 20 S.
T. 21 S.
SOIL
SURVEY
OF
LIMIT
35
22
34
39°00'00"
39°00'00"
(Joins sheet 23)
112°15'00"
112°12'30"
112°10'00"
112°07'30"

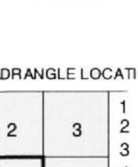
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1975 aerial photography.

North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

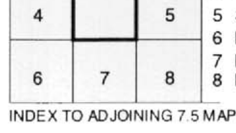
SCALE 1:24000


1
0
1
MILES
1000
0
1000
2000
3000
4000
5000
6000
7000
FEET
1
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 18



QUADRANGLE LOCATION



1 DUGGINS CREEK
2 SCIPIO PASS
3 SCIPIO SOUTH
4 HOLDEN
5 SCIPIO LAKE
6 FILLMORE
7 MOUNT CATHERINE
8 BEEHIVE PEAK

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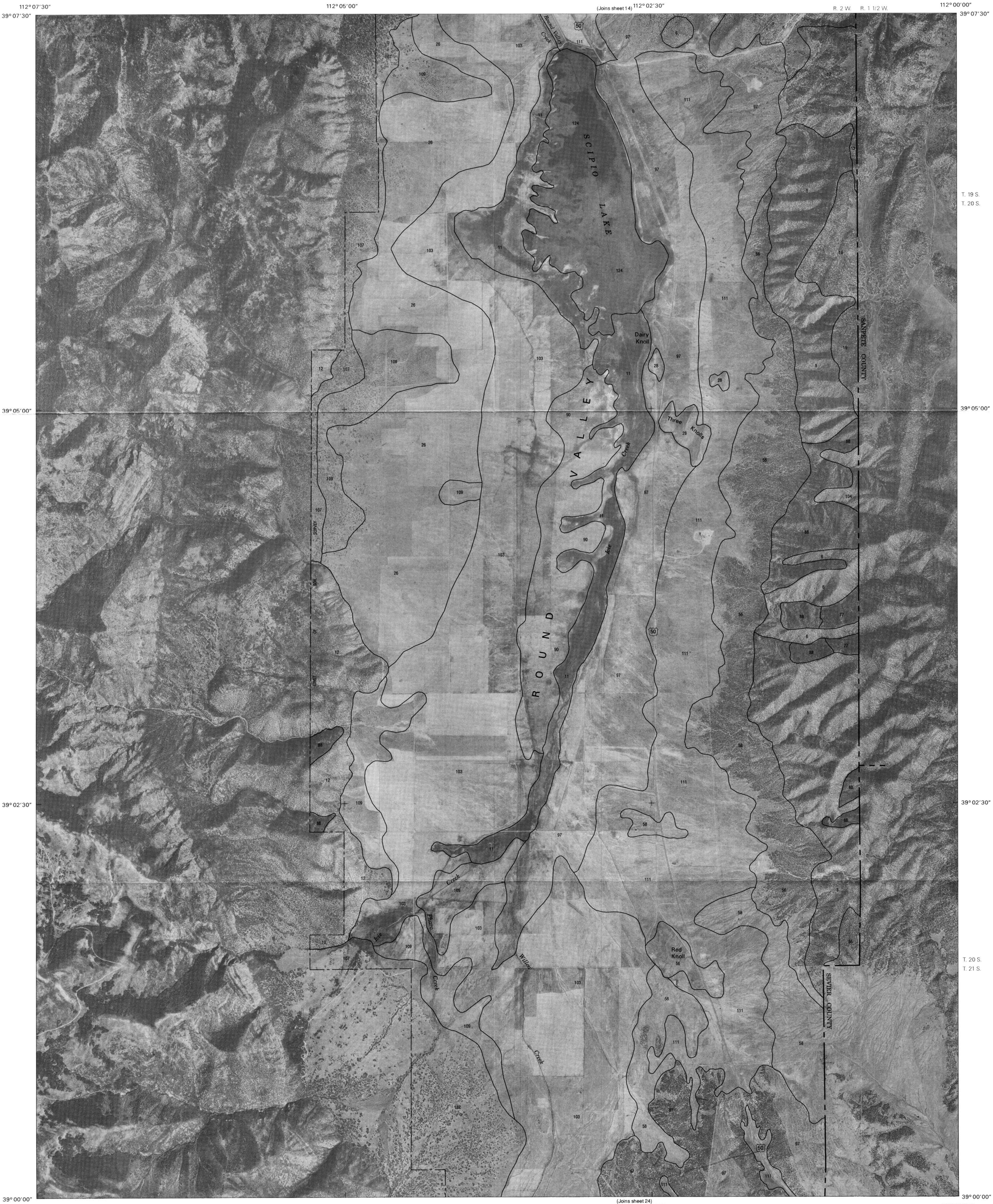
COFFEE PEAK, UTAH

7.5 MINUTE SERIES
SHEET NUMBER 18 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
SCIPIO LAKE QUADRANGLE
SHEET NUMBER 19 OF 28


112° 07′30″
112° 05′00″
(Joins sheet 14) 112° 02′30″
R. 2 W.
R. 1 1/2 W.
112° 00′00″
39° 07′30″
T. 19 S.
T. 20 S.
39° 05′00″
39° 02′30″
T. 20 S.
T. 21 S.
39° 00′00″
(Joins sheet 24)
SCIPIO LAKE
ROUND VALLEY
Dairy Knoll
Three Knolls
Red Knoll
Round Valley Creek
Ivie Creek
Pharo Creek
Willow Creek
50
SANPETE COUNTY
SEVIER COUNTY
LIMIT OF SOIL SURVEY
5
6
11
12
19
26
28
56
58
66
77
88
90
97
103
104
107
109
111
124

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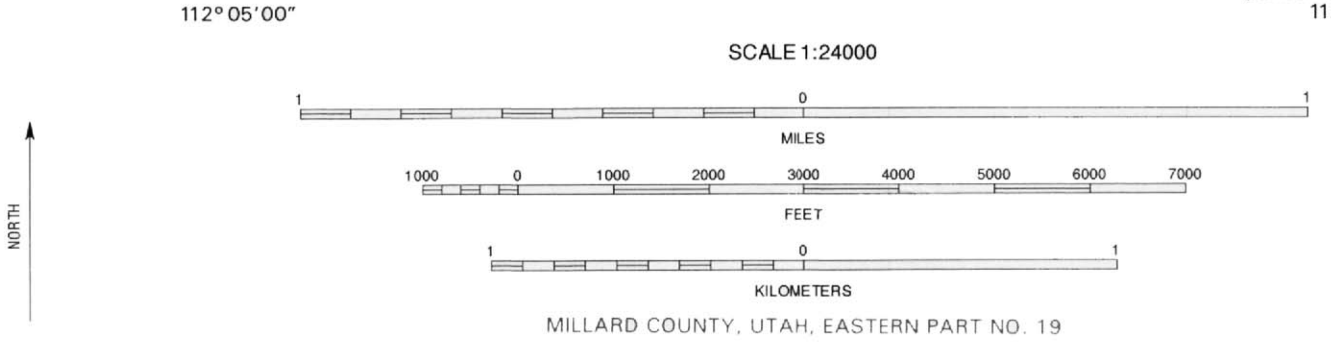
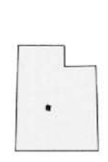
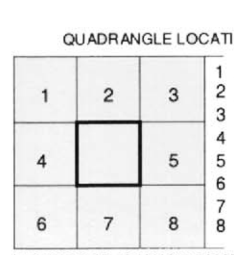
SCALE 1:24000


NORTH
1
0
1
MILES
1000
0
1000
2000
3000
4000
5000
6000
7000
FEET
1
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 19



QUADRANGLE LOCATION



1 SCIPIO PASS
2 SCIPIO SOUTH
3 HAYES CANYON
4 COFFEE PEAK
5 REDMOND CANYON
6 MOUNT CATHERINE
7 BEEHIVE PEAK
8 AURORA

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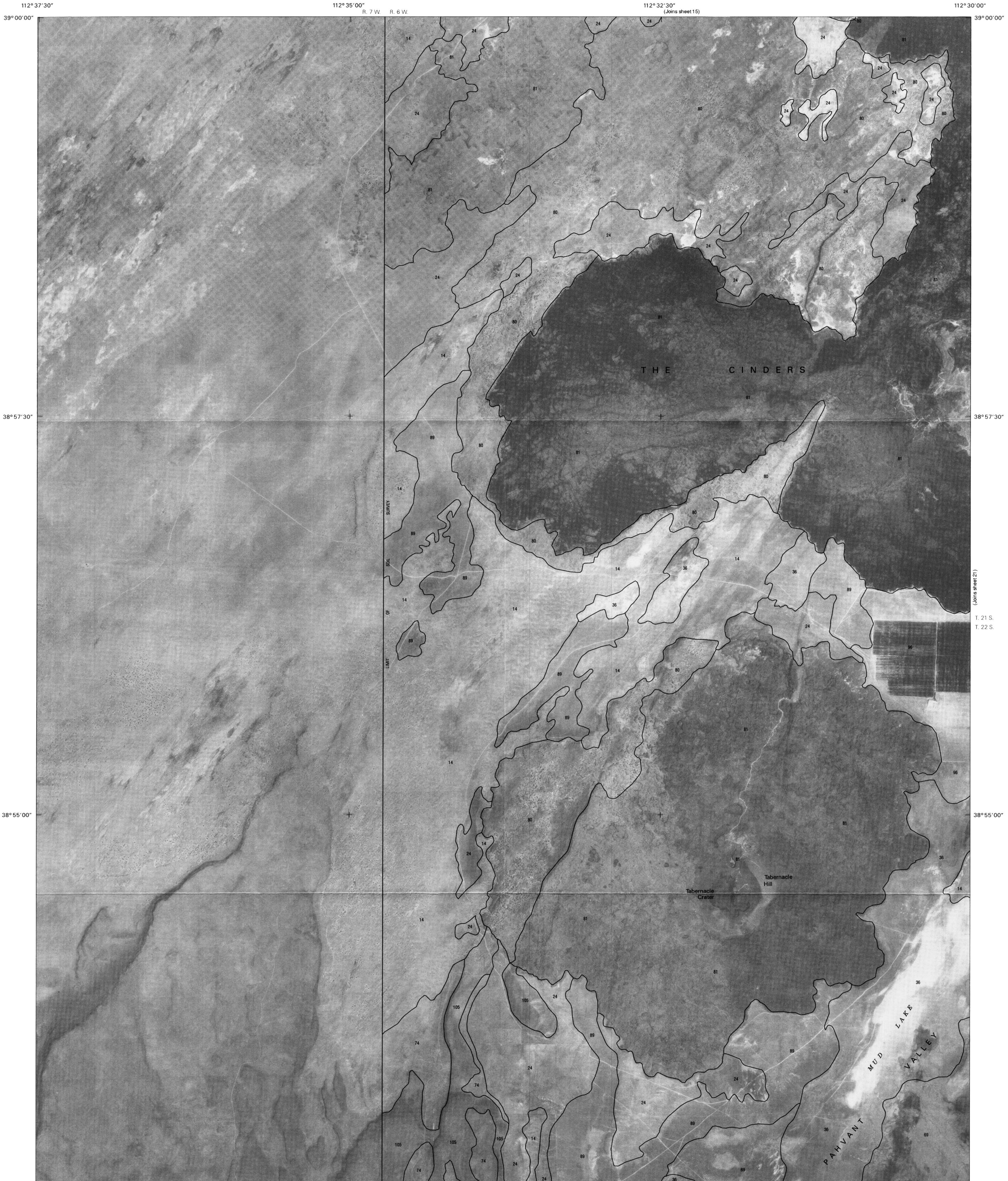
SCIPIO LAKE, UTAH

7.5 MINUTE SERIES
SHEET NUMBER 19 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
TABERNACLE HILL QUADRANGLE
SHEET NUMBER 20 OF 28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112° 35′00″
112° 32′30″
112° 30′00″
39° 00′00″
38° 57′30″
38° 55′00″
38° 52′30″
R. 7 W.
R. 6 W.
(Joins sheet 15)
(Joins sheet 21)
(Joins sheet 26)
T. 21 S.
T. 22 S.
LIMIT OF SOIL SURVEY
THE CINDERS
Tabernacle Hill
Tabernacle Crater
MUD LAKE
PAHVANT VALLEY
14
24
36
69
74
8
80
81
89
96
105

SCALE 1:24000

1 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000
FEET
1 0 1
KILOMETERS
NORTH

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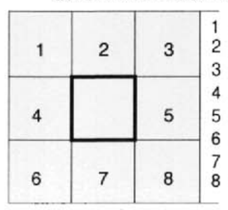
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

MILLARD COUNTY, UTAH, EASTERN PART NO. 20

TABERNACLE HILL, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 20 OF 28

QUADRANGLE LOCATION



1 CLEAR LAKE
2 PAHVANT BUTTE SOUTH
3 THE SINK
4 SAND RIDGE
5 MEADOW
6 BLACK POINT
7 SIXMILE POINT
8 KANOSH

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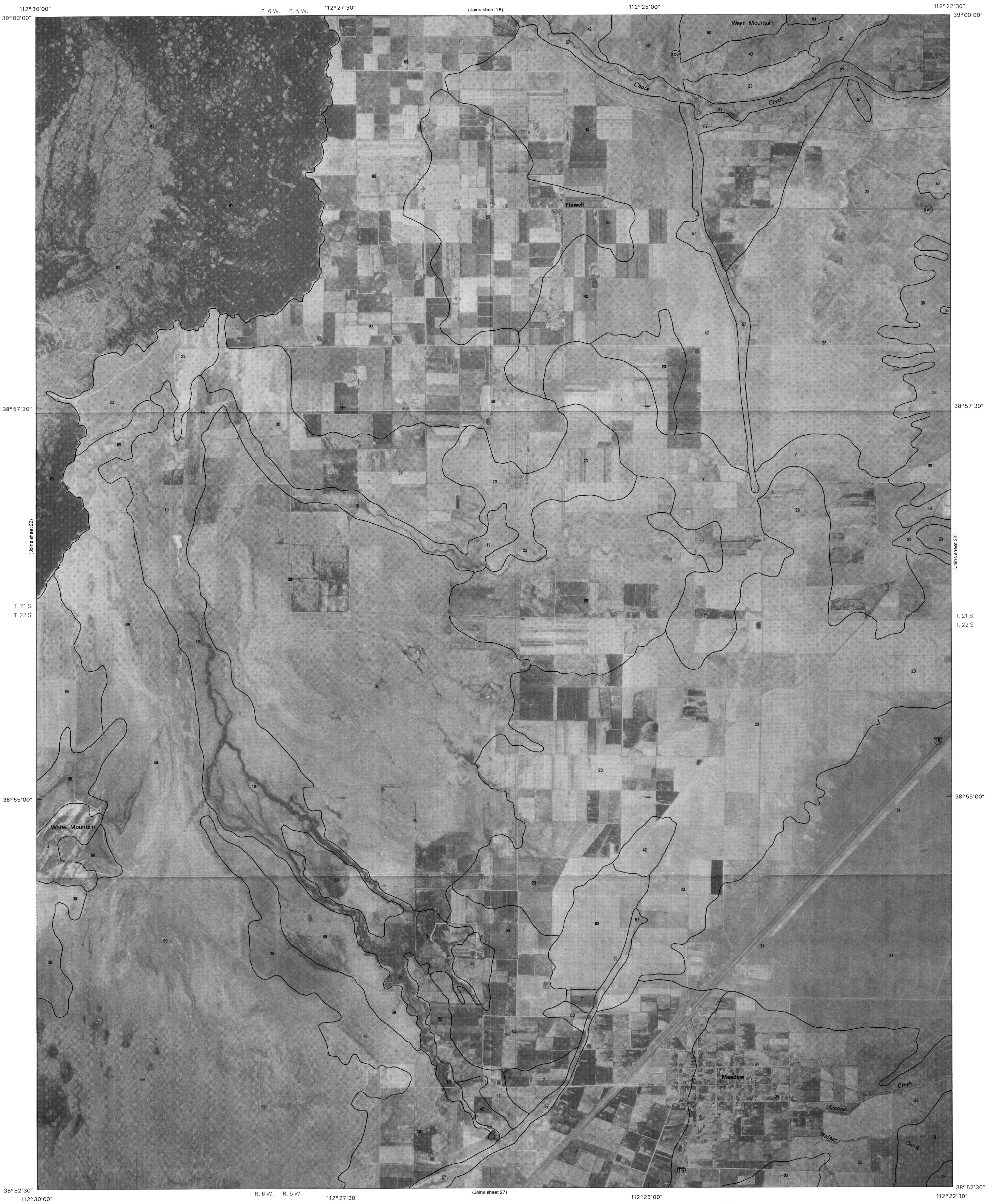
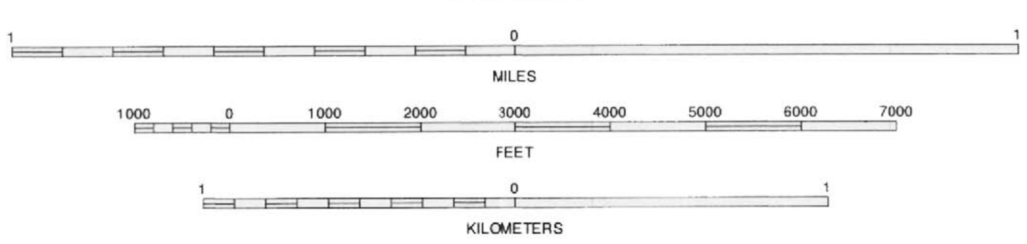
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
MEADOW QUADRANGLE
SHEET NUMBER 21 OF 28


112° 30′00″
R. 6 W.
R. 5 W.
112° 27′30″
(Joins sheet 16)
112° 25′00″
112° 22′30″
39° 00′00″
West Mountain
Chalk
Creek
Flowell
38° 57′30″
(Joins sheet 20)
(Joins sheet 22)
T. 21 S.
T. 22 S.
38° 55′00″
White Mountain
Meadow
Meadow
Creek
Walker
Creek
38° 52′30″
(Joins sheet 27)
100
15

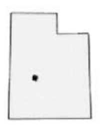
SCALE 1:24000


1
0
1
MILES
1000
0
1000
2000
3000
4000
5000
6000
7000
FEET
1
0
1
KILOMETERS

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1975 aerial photography.

North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

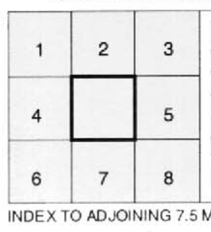
MILLARD COUNTY, UTAH, EASTERN PART NO. 21



MEADOW, UTAH

7.5 MINUTE SERIES
SHEET NUMBER 21 OF 28

QUADRANGLE LOCATION



1 PAHVANT BUTTE SOUTH
2 THE SINK
3 HOLDEN
4 TABERNACLE HILL
5 FILLMORE
6 SIXMILE POINT
7 KANOSH
8 SUNSET PEAK

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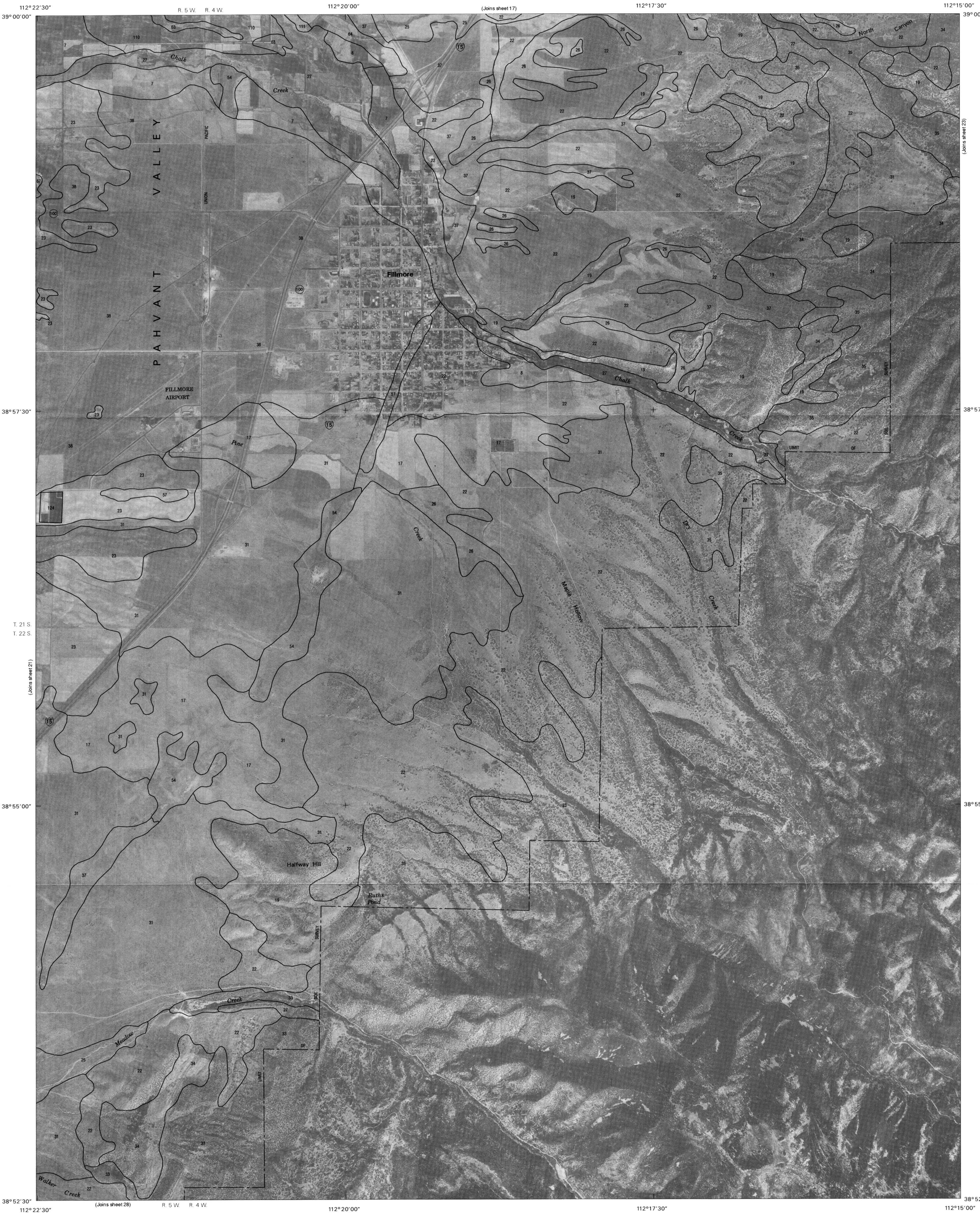
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
FILLMORE QUADRANGLE
SHEET NUMBER 22 OF 28


112° 22′30″
R. 5 W.
R. 4 W.
112° 20′00″
(Joins sheet 17)
112° 17′30″
112° 15′00″
39° 00′00″
39° 00′00″
(Joins sheet 23)
(Joins sheet 21)
38° 57′30″
38° 57′30″
38° 55′00″
38° 55′00″
38° 52′30″
38° 52′30″
T. 21 S.
T. 22 S.
(Joins sheet 28)
R. 5 W.
R. 4 W.
112° 22′30″
112° 20′00″
112° 17′30″
112° 15′00″
Chalk Creek
North Canyon
PAHVANT VALLEY
PACIFIC
UNION
Fillmore
FILLMORE AIRPORT
Pine Creek
Creek
Dry Creek
Maple Hollow
Halfway Hill
Ruths Pond
Meadow Creek
Walker Creek
LIMIT OF SURVEY
15
100

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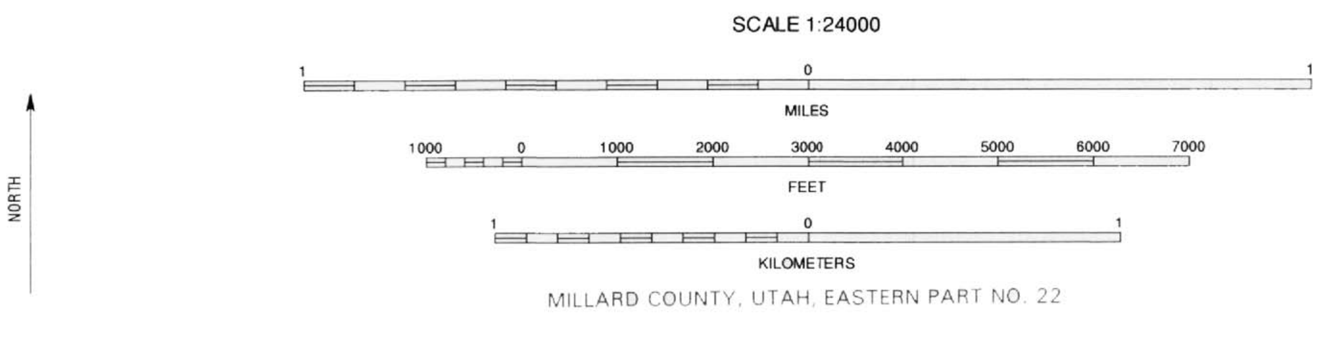
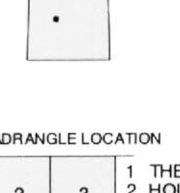
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

SCALE 1:24000

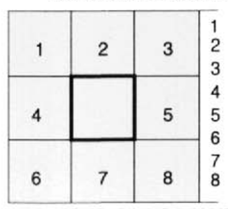

NORTH
1
0
1
MILES
1000
0
1000
2000
3000
4000
5000
6000
7000
FEET
1
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 22



FILLMORE, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 22 OF 28

QUADRANGLE LOCATION

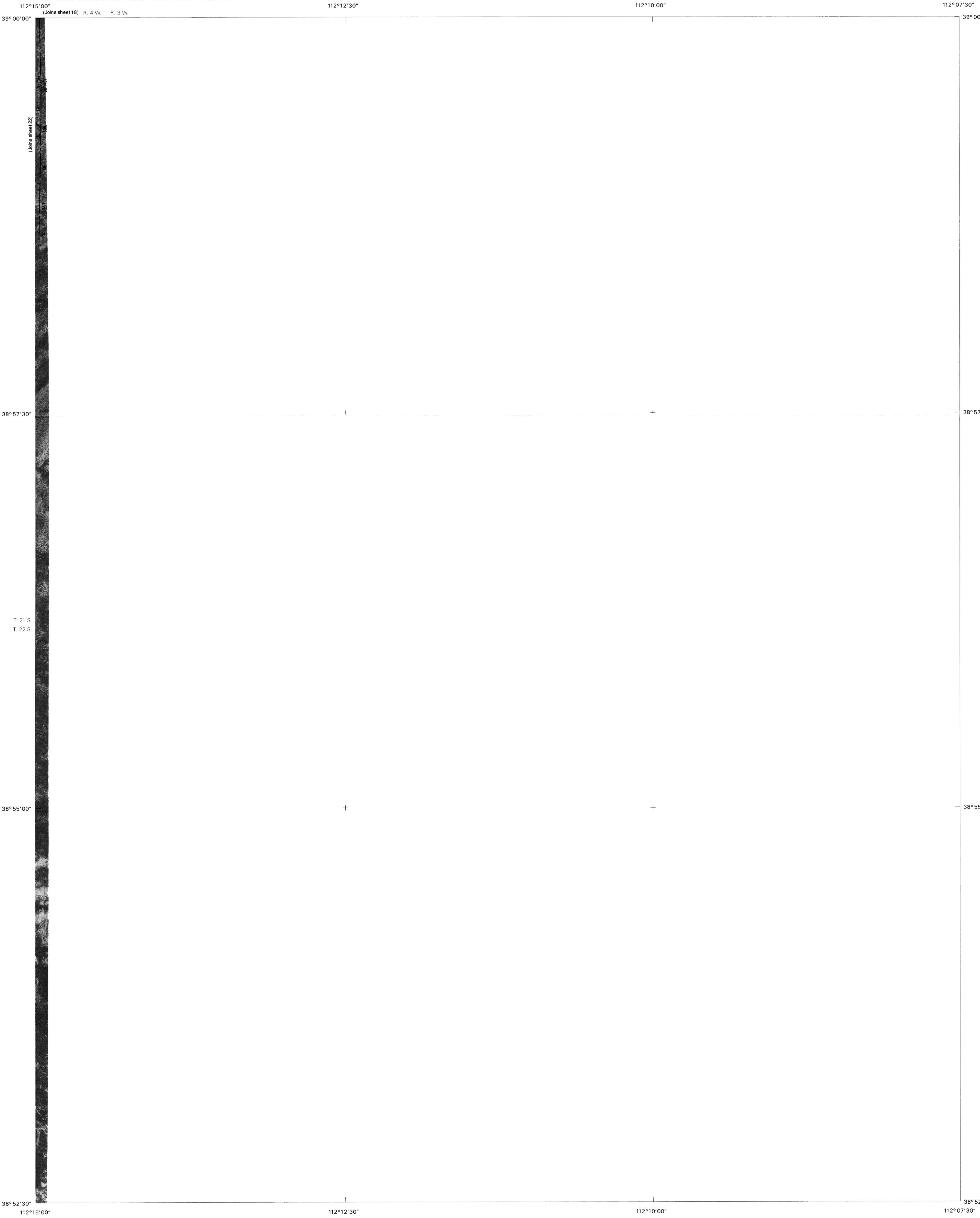


1 THE SINK
2 HOLDEN
3 COFFEE PEAK
4 MEADOW
5 MOUNT CATHERINE
6 KANOSH
7 SUNSET PEAK
8 WHITE PINE PEAK

INDEX TO ADJOINING 7.5 MAPS

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
MOUNT CATHERINE QUADRANGLE
SHEET NUMBER 23 OF 28


112°15'00"
112°12'30"
112°10'00"
112°07'30"
(Joins sheet 18)
R. 4 W.
R. 3 W.
39°00'00"
39°00'00"
(Joins sheet 22)
38°57'30"
38°57'30"
T. 21 S.
T. 22 S.
38°55'00"
38°55'00"
38°52'30"
38°52'30"
112°15'00"
112°12'30"
112°10'00"
112°07'30"

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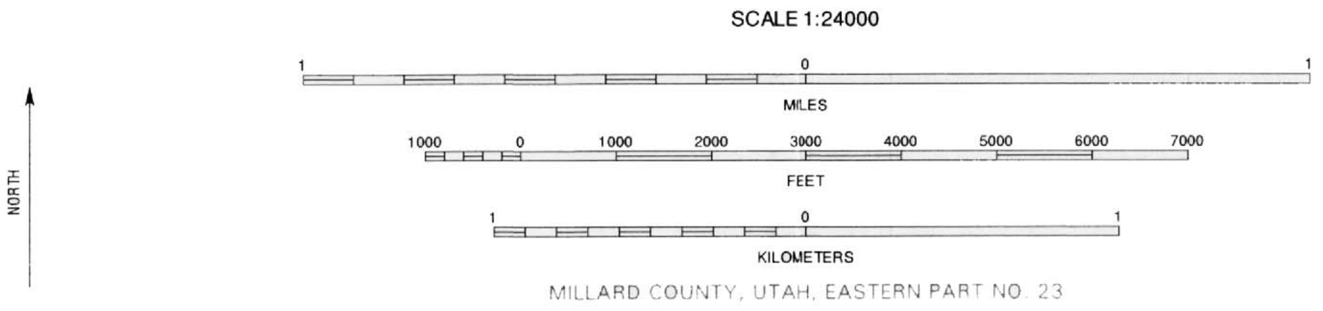
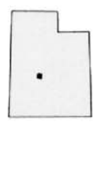
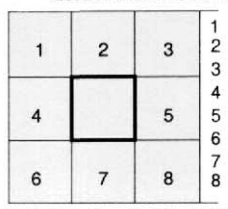
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 12.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.


NORTH
SCALE 1:24000
1
0
1
MILES
1000
0
1000
2000
3000
4000
5000
6000
7000
FEET
1
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 23



QUADRANGLE LOCATION



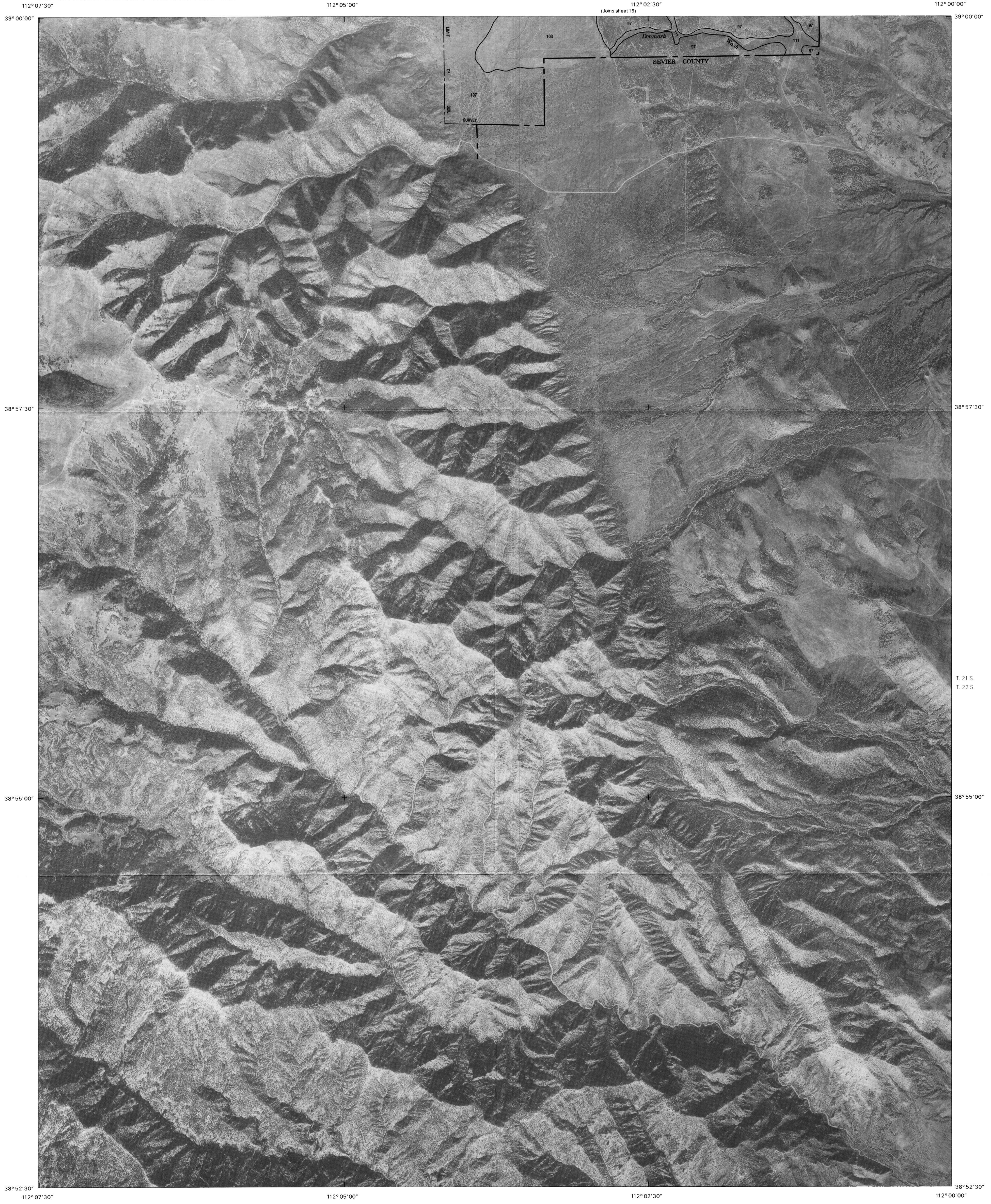
1 HOLDEN
2 COFFEE PEAK
3 SCIPIO LAKE
4 FILLMORE
5 BEEHIVE PEAK
6 SUNSET PEAK
7 WHITE PINE PEAK
8 RICHFIELD

INDEX TO ADJOINING 7.5 MAPS

MOUNT CATHERINE, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 23 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
BEEHIVE PEAK QUADRANGLE
SHEET NUMBER 24 OF 28


112° 07′30″
112° 05′00″
112° 02′30″
(Joins sheet 19)
112° 00′00″
39° 00′00″
39° 00′00″
LIMIT OF SOIL SURVEY
103
107
97
97
97
97
97
111
111
Denmark Wash
SEVIER COUNTY
38° 57′30″
38° 57′30″
T. 21 S.
T. 22 S.
38° 55′00″
38° 55′00″
38° 52′30″
38° 52′30″
112° 07′30″
112° 05′00″
112° 02′30″
112° 00′00″

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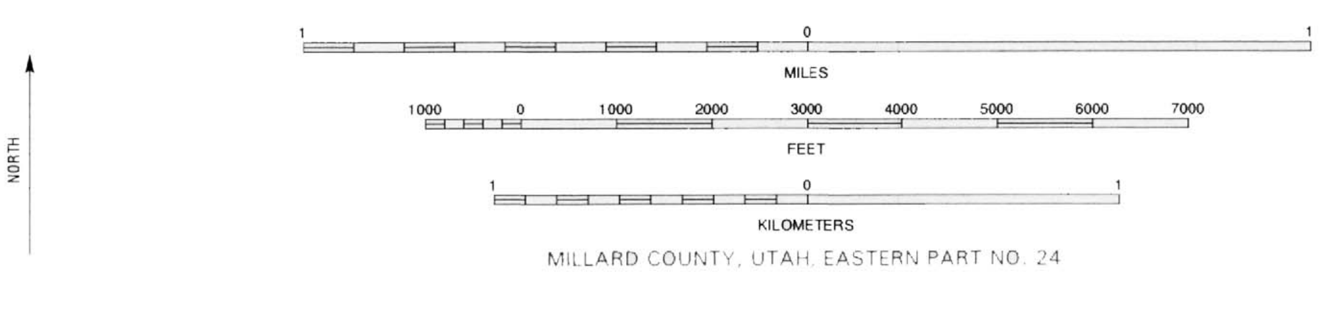
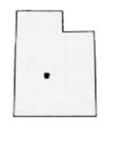
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.


NORTH
SCALE 1:24000
1
0
1
MILES
1000
0
1000
2000
3000
4000
5000
6000
7000
FEET
1
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 24



QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

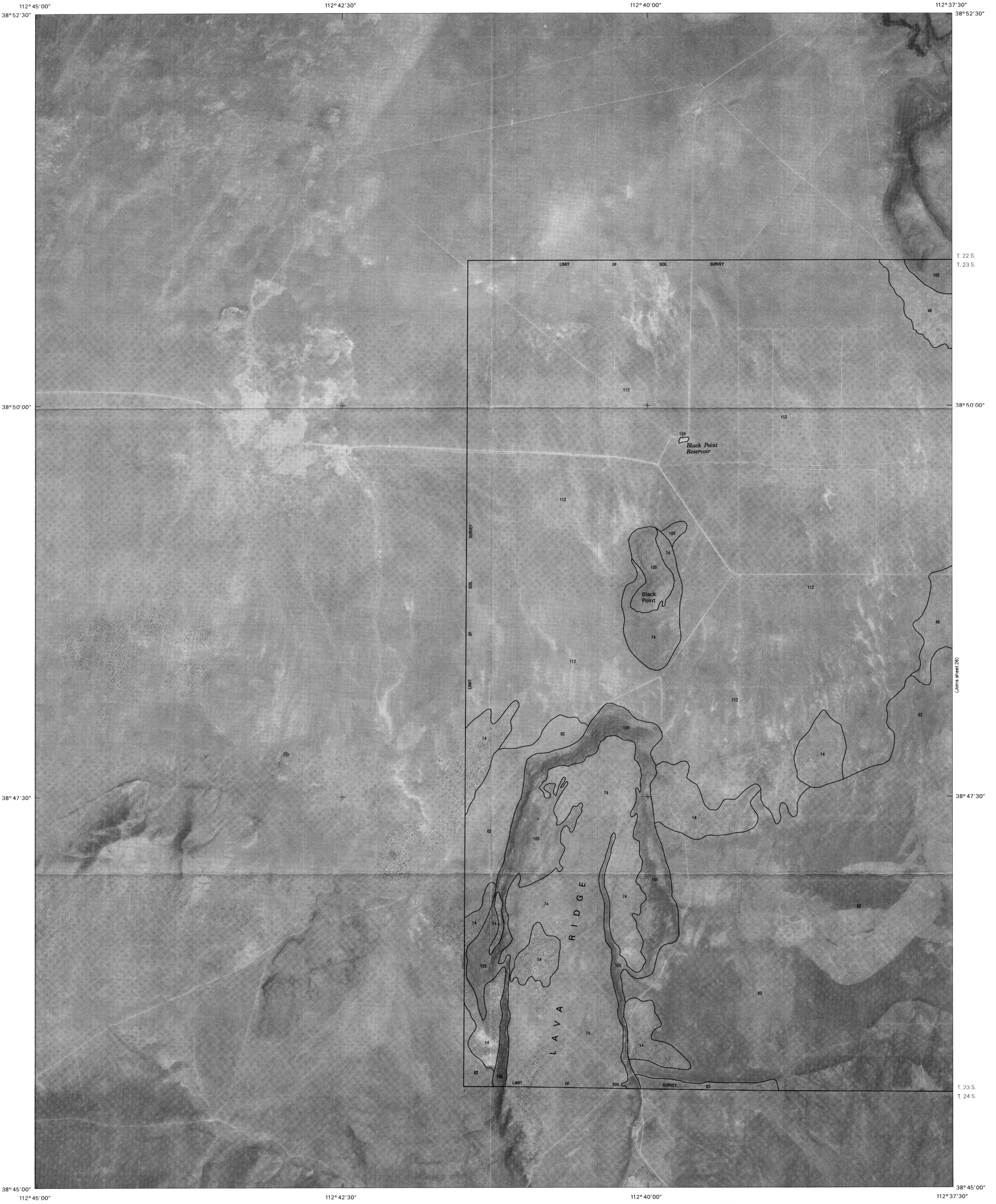
1 COFFEE PEAK
2 SCIPIO LAKE
3 REDMOND CANYON
4 MOUNT CATHERINE
5 AURORA
6 WHITE PINE PEAK
7 RICHFIELD
8 SIGURD

INDEX TO ADJOINING 7.5 MAPS

BEEHIVE PEAK, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 24 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
BLACK POINT QUADRANGLE
SHEET NUMBER 25 OF 28


112° 45′00″
112° 42′30″
112° 40′00″
112° 37′30″
38° 52′30″
38° 50′00″
38° 47′30″
38° 45′00″
T. 22 S.
T. 23 S.
T. 24 S.
(Joins sheet 26)
LIMIT OF SOIL SURVEY
105
48
112
124
Black Point Reservoir
74
Black Point
62
14
LAVA RIDGE
83

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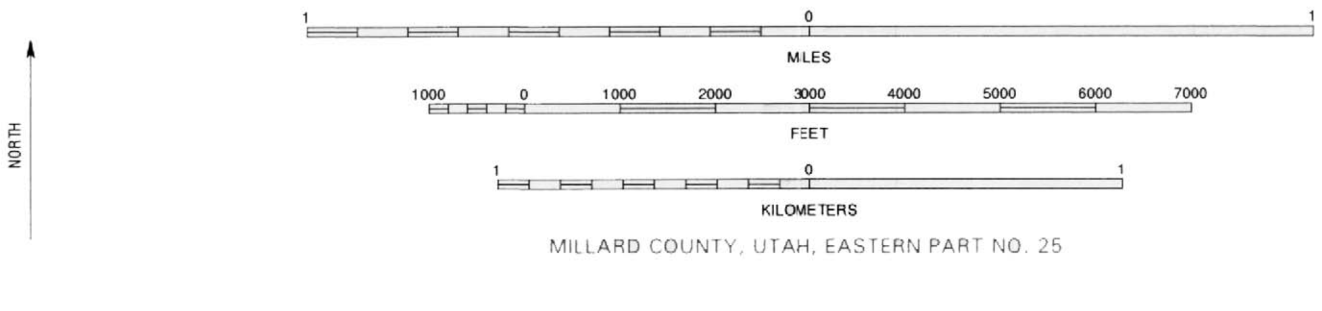
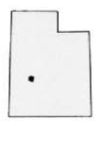
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

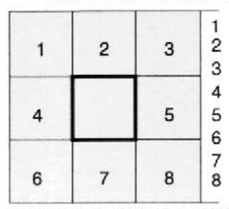
SCALE 1:24000


NORTH
1
0
1
MILES
1000
0
1000
2000
3000
4000
5000
6000
7000
FEET
1
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 25



QUADRANGLE LOCATION



1 BORDEN
2 SAND RIDGE
3 TABERNACLE HILL
4 CRUZ
5 SIXMILE POINT
6 ANTELOPE SPRING
7 ANTELOPE VALLEY
8 DOG VALLEY PEAK

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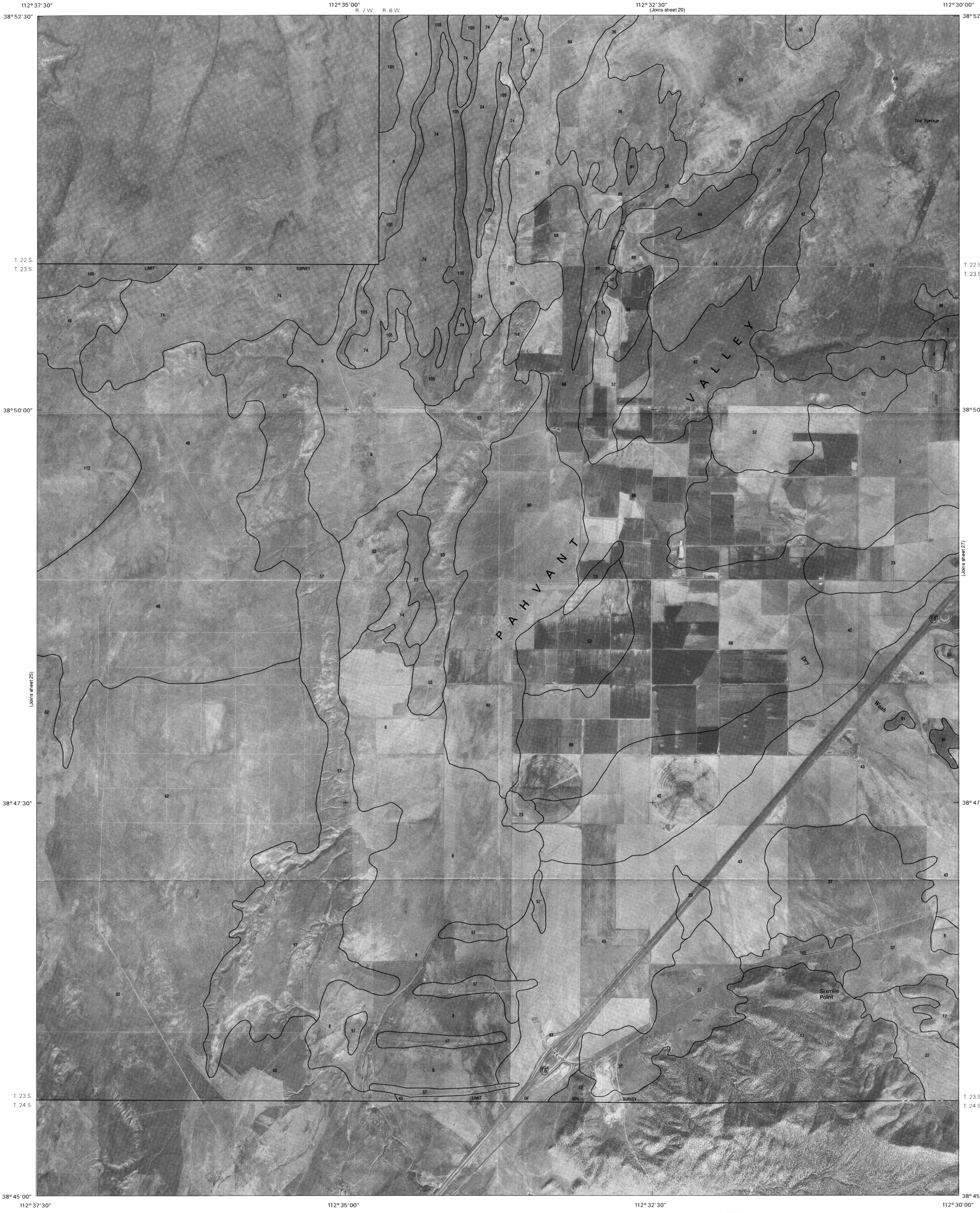
BLACK POINT, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 25 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
SIXMILE POINT QUADRANGLE
SHEET NUMBER 26 OF 28


112° 37′30″
112° 35′00″
112° 32′30″
112° 30′00″
38° 52′30″
38° 50′00″
38° 47′30″
38° 45′00″
R. 7 W.
R. 6 W.
(Joins sheet 20)
(Joins sheet 25)
(Joins sheet 27)
T. 22 S.
T. 23 S.
T. 24 S.
LIMIT OF SOIL SURVEY
PAHVANT VALLEY
Dry Wash
Hot Springs
Sixmile Point
15

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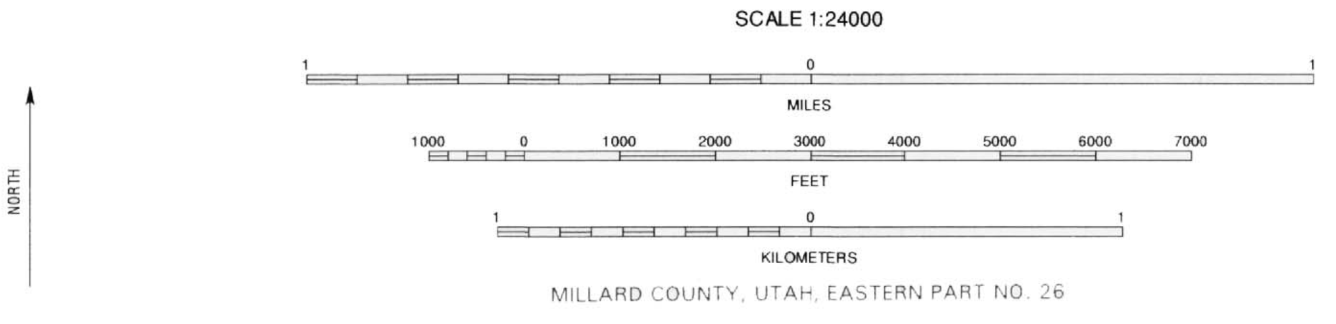
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.


NORTH
SCALE 1:24000
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MILES
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7000
FEET
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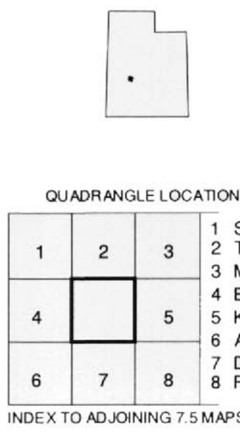
0
1
KILOMETERS


QUADRANGLE LOCATION
1
2
3
4
5
6
7
8

- 1 SAND RIDGE
- 2 TABERNACLE HILL
- 3 MEADOW
- 4 BLACK POINT
- 5 KANOSH
- 6 ANTELOPE VALLEY
- 7 DOG VALLEY PEAK
- 8 RED RIDGE

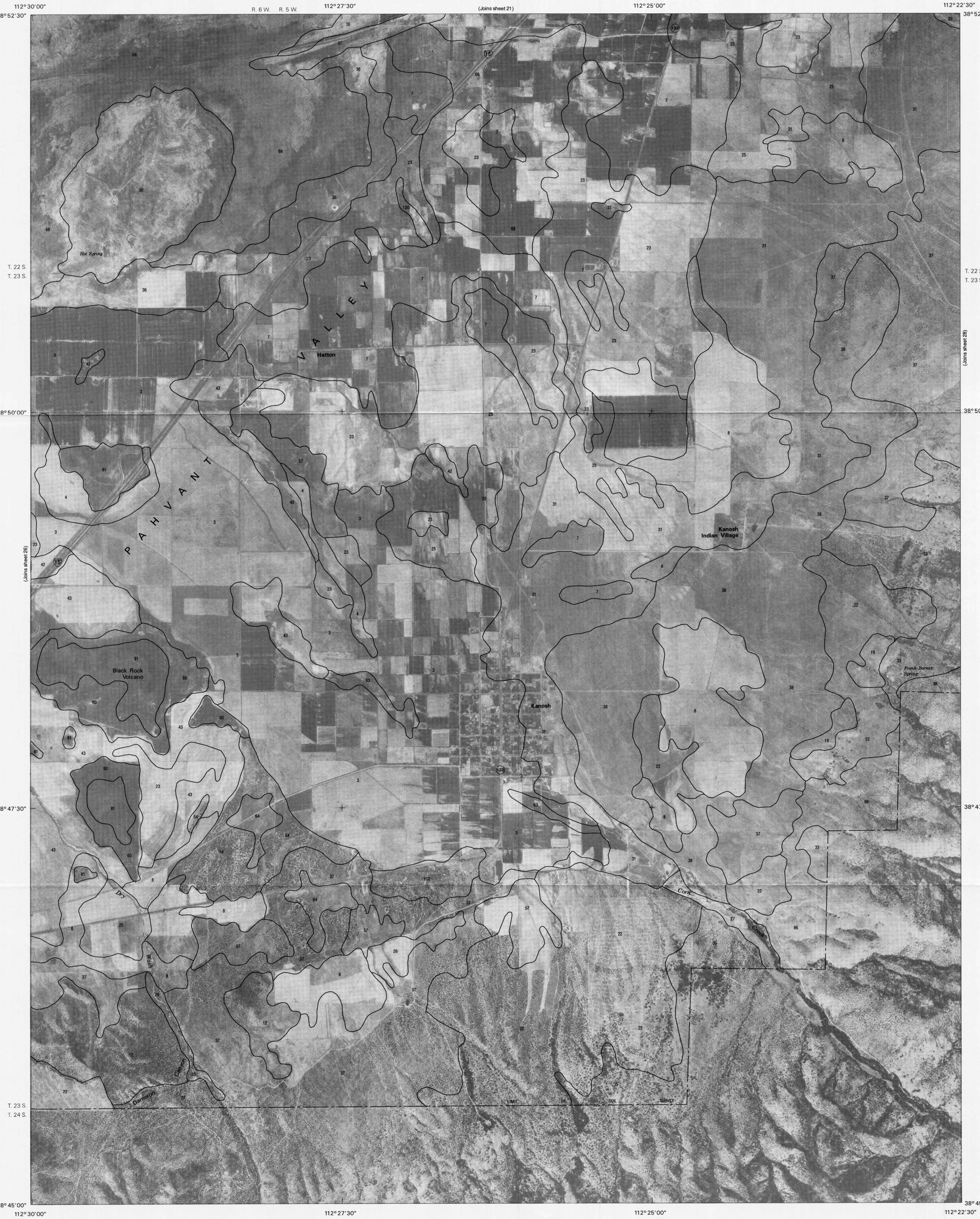
INDEX TO ADJOINING 7.5 MAPS

SIXMILE POINT, UTAH

7.5 MINUTE SERIES
SHEET NUMBER 26 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
KANOSH QUADRANGLE
SHEET NUMBER 27 OF 28


112° 30′00″
R. 6 W.
R. 5 W.
112° 27′30″
(Joins sheet 21)
112° 25′00″
112° 22′30″
38° 52′30″
T. 22 S.
T. 23 S.
(Joins sheet 28)
(Joins sheet 26)
38° 50′00″
38° 47′30″
38° 45′00″
T. 23 S.
T. 24 S.
Hot Spring
PAHVANT
VALLEY
Hatton
Kanosh Indian Village
Black Rock Volcano
Kanosh
Frank Barney Spring
Dry Wash
Corn Creek
Dameron Canyon
LIMIT OF SOIL SURVEY
15
133

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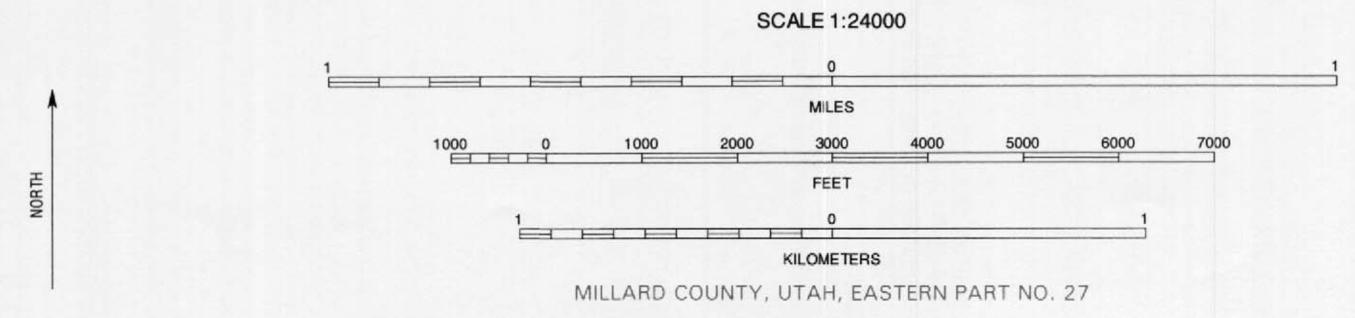
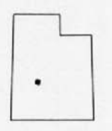
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 12.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

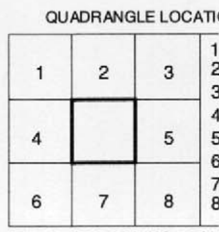
SCALE 1:24000


NORTH
1
0
1
MILES
1000
0
1000
2000
3000
4000
5000
6000
7000
FEET
1
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 27



QUADRANGLE LOCATION



1 TABERNACLE HILL
2 MEADOW
3 FILLMORE
4 SIXMILE POINT
5 SUNSET PEAK
6 DOG VALLEY PEAK
7 RED RIDGE
8 JOSEPH PEAK

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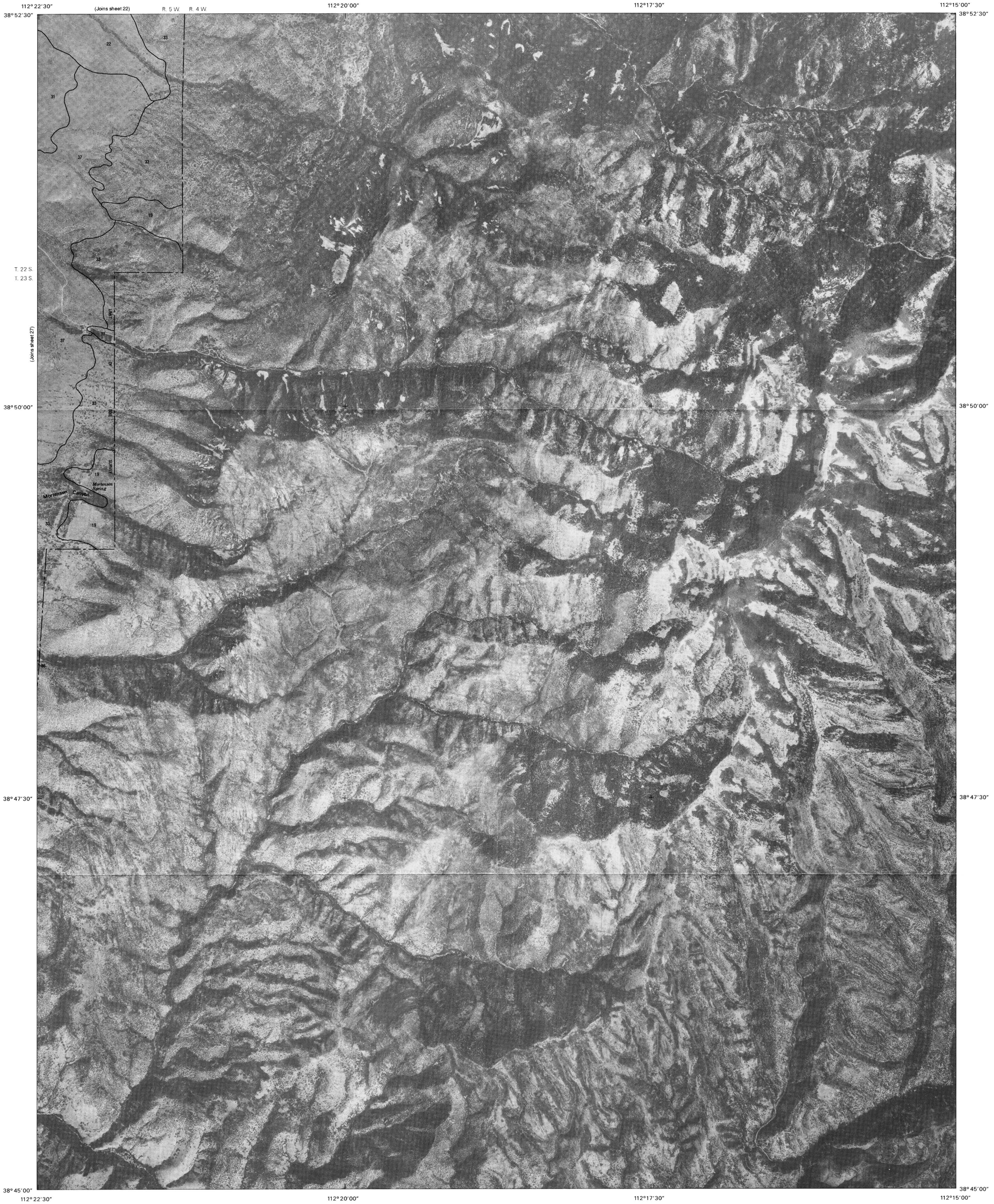
KANOSH, UTAH
7.5 MINUTE SERIES
SHEET NUMBER 27 OF 28

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

MILLARD COUNTY, UTAH, EASTERN PART
SUNSET PEAK QUADRANGLE
SHEET NUMBER 28 OF 28


112° 22′30″
(Joins sheet 22)
R. 5 W.
R. 4 W.
112° 20′00″
112° 17′30″
112° 15′00″
38° 52′30″
38° 52′30″
22
33
31
37
33
19
33
T. 22 S.
T. 23 S.
LIMIT OF SOIL SURVEY
(Joins sheet 27)
17
37
33
38° 50′00″
38° 50′00″
19
Mortensen Spring
Mortensen Canyon
33
19
38° 47′30″
38° 47′30″
38° 45′00″
38° 45′00″
112° 22′30″
112° 20′00″
112° 17′30″
112° 15′00″

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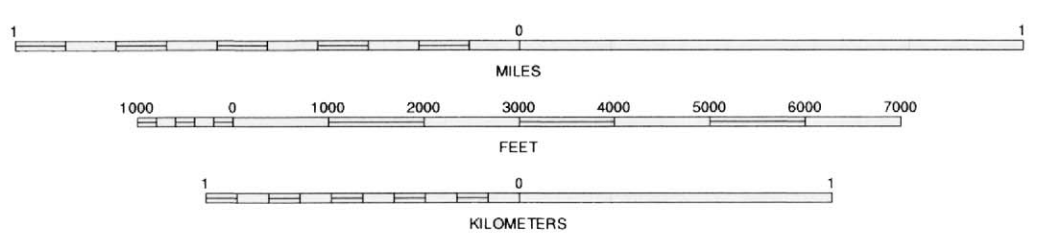
North American Datum of 1927 (NAD27). Clarke 1866 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

SCALE 1:24000


1
0
1
MILES
1000
0
1000
2000
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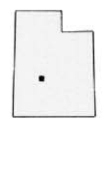
5000
6000
7000
FEET
1
0
1
KILOMETERS

MILLARD COUNTY, UTAH, EASTERN PART NO. 28



SUNSET PEAK, UTAH

7.5 MINUTE SERIES
SHEET NUMBER 28 OF 28

QUADRANGLE LOCATION

1 MEADOW
2 FILLMORE
3 MOUNT CATHERINE
4 KANOSH
5 WHITE PINE PEAK
6 RED RIDGE
7 JOSEPH PEAK
8 ELSINORE

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